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THE URIC ACID FETISH

BY

EUSTACE MILES, M.A.

AND

C. H. COLLINGS

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THE URIC ACID FETISH

THE URIC ACID FETISH

(Exposure of a Popular Theory)

BY

EUSTACE MILES, M.A.

AND

C. H. COLLINGS

"Tissue change was regarded mainly as a dietetic drama, in which a harmless enough creature called uric acid very successfully posed as the villain."

From LEONARD WILLIAMS, M.D., M.R.C.P.
in "The Lancet" (March 21, 1914)

PUBLISHED BY

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A Note to the Reader.

"The Uric Acid Fetish" by Mr. C. H. Collings, the Clinical Analytical Expert, and myself, is, so far as I know, the first detailed exposure of some of the many weaknesses of the Uric Acid Theory to be written and published, while that theory is at the zenith of its popularity and vogue.

The repetitions and the arrangement of the book are purposely designed so that the reader may see the main ideas approached and set forth from different points of view.

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MAR 31 1922
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Eustace Miles.

CONTENTS

PART I

By Eustace Miles

CHAPTER		PAGE
	Preface	9
I.	A Chapter of Personal Experiences and Convictions .	27
II.	Some General Notes . .	42
III.	The Current Popular View (especially of the Followers of Dr. A. Haig) . . .	59
IV.	The Popular Treatment . .	66
V.	Arguments for Dr. A. Haig and His Theory . . .	68
VI.	Weakness of the Popular Treatment (Dr. A. Haig's Theory and Practice Criticised)	77
VII.	Further Criticism of the Popular Treatment . . .	145
VIII.	Questions that I am Often Asked.	151
IX.	A Few Conclusions About Uric Acid	174

PART II

By C. H. Collings

CHAPTER		PAGE
X.	Summary of the Uric Acid Case	181
XI.	Criticism of a Typical Uric Acid Book	183
XII.	The Uric Acid Fetish . .	225

APPENDICES

Appendix I.—Quotations About Uric Acid and Purins . . .	243
Appendix II.—Anæmia and Neurasthenia. (By Eustace Miles) . .	254
Appendix III.—The Easter Egg. (From "The Lancet")	261
Appendix IV.—Purins in Foods. (Chiefly from Walker Hall) . .	264

PREFACE

By Eustace Miles

IT may be interesting to some readers to know how this book came to be written.

First of all, many years ago, after having advised hundreds of people as to their diet, I wrote a book on "Uric Acid," but did not publish it. I felt that it would be premature to publish it at that time without a great dea more experience.

Later on, I re-wrote the book, incorporating my further experiences in many more hundreds of cases, and especially calling attention to the importance of another factor in the problem of underlying causes of troubles, besides the excess of flesh-foods, meat-extracts, etc.—namely, the excess of Carbohydrates (or starchy and sugary foods).

Thirdly, I re-wrote the book, in the light of further experience. Then I have re-written it again after the work which I had done in co-operation with Mr. C. H. Collings, the Clinical Analytical Expert.

In this book Mr. Collings and I have written quite independently. That is to say, he wrote his part without reference to mine, and I wrote my part without reference to his. A great deal of his part was published in "Healthward Ho!" as a criticism of Dr. Kenneth T. Haig's book on diet.

After I had been working—practically by myself—in advising people as to their diet and health, I most fortunately came into touch with Mr. Collings, who had been working to a great extent along the lines of the Salisbury System, which consists substantially in the drinking of hot water and the taking of flesh-foods without Carbohydrates; though Mr. Collings added the advice to take such homœopathic medicines as were indicated by the threefold examinations that he made. I, of course, had been working along different lines, trying especially to get adequate substitutes for flesh-foods. Now, after treating many hundreds of cases together and watching the results carefully, Mr. Collings and I agree as to the main necessities in most individual cases. Needless to say, one individual case may differ remarkably from another in its requirements, because the causes of trouble are different.

The difficulty in the writing of this book has been chiefly that of compression and omission, so that the main conclusions might stand clearly forth. To leave out ideas, as I have had to do for the want of space, is like cutting off the things that are dearest to one.

It is curious to note what popular fallacies prevail, in the criticism of books that offer genuine convictions.

First, there is a fallacy that, if a man changes his mind, perhaps after some years of experience, he is inconsistent. We often get politicians accused of inconsistency because, after further research into their subject, they have been bound to change their mind. A man may believe in Free Trade, and be quite convinced that he is right, until he has studied the matter more thoroughly, when he may see that, at least for certain trades, manufactures, or articles, Tariff Reform is advisable. He changes his mind, and is accused of inconsistency, as if that were a sort of crime, whereas, really, it is (as a great Frenchman says) a confession that one is cleverer and wiser to-day than one was yesterday. Emerson rightly called "a foolish

consistency the hobgoblin of little minds." I remember a great writer once saying to me, when I told him that his Universal Laws of Health did not apply to certain cases, and that he ought to withdraw them (at least in the form of universal laws), " If I changed my ideas, I should lose my public." It was evidently a case of " one man, one idea."

Really among the highest compliments that can be paid to a man is that he is prepared to change his mind when fresh and convincing evidence is brought before him.

My own personal experience was that, with enormous advantage to my health and fitness, I gave up flesh-foods and put in their place body-building bases, first one and then another. I think we are now working in the direction of by far the most successful body-building bases up to date. I did not give up the pulses altogether, nor did I give up tea altogether, though I read a severe denunciation of them in Dr. A. Haig's book.

Then I wrote a book myself, a book which is now quite out of date in most important features. This book induced a good many people to change their diet, either thoroughly or partially, and I

received many letters of thanks; but, on the other hand, there were certain failures: certain cases in which the abstinence from Purin foods did not produce vigorous health, even after a trial of a year, or two or three years.

After this, I went into the causes of trouble in more detail, and managed to help people to health in a larger proportion of cases than before —partly by advising them to take less bulk, but especially by advising them to take less of the starchy and sugary foods than Dr. A. Haig had commanded, and to drink less milk (as milk) than he had considered necessary, and by getting them to sip more pure vegetable-juices, particularly last thing at night, and to get better body-building bases to take the place of the flesh-foods.

It was not till after a good many years of experimenting with myself and others, and watching and cataloguing the results, whether they were successes or failures, that I came into contact with Mr. C. H. Collings. He explained to me his principle of threefold examinations—how he was able, after the examinations, to tell about the vitality of the individual, about the different kinds of autotoxæmia, the elimination of the different kinds of poisons; and then was

able to get at the causes, which included a deficiency of soda and various other bases (according to the individual), and an excess of various foods in the past or in the present, or both.

Though, therefore, in my earlier book (in fact, it was my first book on the subject of health), I was quite convinced that Uric Acid was almost the only cause of many physical and of many mental troubles as well, I have no hesitation now in taking up an entirely different position. I do not mind whether I am called inconsistent or not: the great thing is that I now speak what I now feel to be true and useful.

A second fallacy is that, if a man has a certain "Degree," he is an "authority," even if he has made no researches along the special line in which he is supposed to be an "authority"; and conversely that, if a man has not taken a certain "Degree," he is not an "authority." Hitherto, the objection to my advising people about health and diet has not been that I have not read and studied a great deal, nor that I have not practised various dietaries, nor that I have not benefited all round by means of diet, but that I am not "qualified," because I have not had "hospital" and "clinical" experience.

It was useless to point out that, for the most part, medical men were not qualified to advise on the subject of diet; their course does not include practical training in this important subject. It was useless for me to point out that I was treating hundreds of people year after year, and getting good results. I had to have some scientific work behind me, to back up, and, of course, also, to correct my methods.

Now, fortunately, I have real science behind me in the threefold clinical examinations.

Mr. Collings has had twenty years of this work, and he has worked not only independently, but also for well-known doctors.

He has been through the orthodox training in the examination of the fixed blood, and so forth; but, in addition, he has devoted himself to the examination of the living and dying blood for general information as well. It was Dr. Salisbury who first, I believe, published a book on this subject. The book is still of great interest.

Then Mr. Collings had been through the orthodox training for the examination of the Urine. I think he knows whatever of practical use is to be known from text-books; and he has gone to

some degree beyond that. He has made one or two contributions himself, particularly on the subject of the Chromogens.

As to the other department of the threefold examination, he has here also learnt a great deal for himself that is not to be found in the text-books at all.

What has struck me most, in the years of frequent discussion of different cases and points with him, is the range of his orthodox medical knowledge, as well as his power of putting two and two together, so as to arrive at a sound conclusion, a conclusion which he verifies by different kinds of methods.

He has not neglected the mental side of the problem. He is a keen student of various philosophies, including those of the East.

With the microscope he is *au fait*. His father has done drawings for some of the leading authors, including Darwin, Huxley, and Sir Lauder Brunton; and he himself has used the microscope from an early age.

His work has always been distinguished by the most absolute thoroughness and exactitude. I have known him take many hours over a single case.

He has been through a period of self-cure, and therefore is in sympathy with the patient, knowing what a severe process it is very often to get rid of the results of the tissue-stored poisons, not only those that come from mistakes in diet, drink, etc., but also the drugs which have been added to the system in order (?) to remove the poisons. These drugs often remain stored up in the system.

After long and careful work with him, I was forced to be convinced on many points.

First of all, that Carbohydrate over-acidity (due to excess of starchy and sugary foods), called Hyperpyræmia by Dr. Francis Hare, was a more general trouble and a more lasting trouble than Uric Acid excess.

Secondly, that autotoxæmia and over-acidity in general were quite distinct, in many cases, from Uric Acid poisoning. There were many kinds and cases of autotoxæmia which seemed to have not the remotest connection with Uric Acid.

Thirdly, I was convinced that part of the process of cure, in hundreds of cases, was to avoid excess of Carbohydrates: that in such cases merely to take up a diet free from Purins was not itself a cure.

Then I had to admit, quite against what I had written, that the elimination of poisons and the helping of the system to function properly, could also be furthered by the use of certain fine solutions of inorganic "salts." For example, in the case of anæmia, two kinds of fine solutions or triturations cure almost mathematically. Before, I had been of the opinion (as laid down by many authorities) that it was only from the plants or from the organic world that these tissue-salts could be assimilated. I am now sure that they can be assimilated from the right kinds of fine solutions or triturations if these be taken in the right way.

I have had to realise, I have had to be convinced, that there were numbers of cases in which Uric Acid was not the cause of all the trouble—in fact, in one day we found that three cases out of five were not Uric Acid cases at all; that it was not an important cause in many cases; that it was not a main cause; that it was not a lasting cause. Indeed, we have found that it takes generally only a few weeks of the right diet and treatment to clear the system of the excess of Uric Acid; some cases persist longer. Obstinate cases may last still longer.

An example may be given. It was a case of Sciatica of many years' standing. The lady was cured mainly by the avoidance of excess of Carbohydrates. She absolutely refused to give up the Purin foods altogether; she insisted on taking fish and chicken. We let her take these, though the usual analysis shows chicken to contain a great deal of Uric Acid or Purins. But she was completely cured of her Sciatica. It was not a Uric Acid case: the Uric Acid had been eliminated from her system long ago, so far as it could have been a factor in the trouble. It was a case of Carbohydrate over-acidity, as the Threefold Examination clearly proved.

My conviction is all the more striking because I myself have for many years abstained from all flesh-foods of any kind whatsoever, and all meat-extracts, and from most of the Purin foods, especially from oatmeal, cocoa, chocolate, and coffee; but I sometimes take eggs, pulses, tea, mushrooms, and asparagus. Personally, I should prefer pure proteid foods like our "Emprote," some milled nuts, salads, conservatively cooked green vegetables, and a little fruit. But I generally have a wider diet, partly

because of the need to taste various foods at the Eustace Miles Restaurant.

A third fallacy is that there is any other real criterion of experience beyond the all-round results of a fair, personal, and individual trial by many people. It applies whether the theory is the no-breakfast plan, or thorough mastication, or air and light baths. It applies to all fallacies about the various avenues to health: in fact, it was the keynote of my book "Muscle, Brain, and Diet."

It is interesting to note the change of fashions with regard to names of diseases and causes of diseases. At one time it was always a matter of Malnutrition, the patient being "run down." Then there came the catch-word, Neurasthenia—often applied to cases which were not Neurasthenic at all. Then there was the mania about Intestinal Putrefaction. Then, more recently, there has been the mania for assigning every trouble to Uric Acid.

Corresponding to the causes, there have been the obvious remedies or so-called remedies. Malnutrition has been treated with feeding up; the run-down condition by tonics; Neuras-

thenia by rest, and by stuffing with foods which were supposed to feed the nerves; Intestinal Putrefaction has been treated with flushing, or, lately, by raw, coarse, cereal foods, by oil, or by lactic acid bacilli. Uric Acid has been treated by various solvents, such as bi-carbonate of soda and salicylate of soda, and by lithia, and by the avoidance of the so-called Uric Acid or Purin Foods.

One of the objects of this book is to point out that the Uric Acid theory fails to explain a vast amount of phenomena. In this book we have been obliged to omit a great deal that we should have liked to discuss. For example, there is the consideration of the causes of the formation of various crystals other than the Uric Acid crystals, and of the causes of retention of toxins in the tissues, and so on.

It has been necessary to omit much, so that the book might be kept practical. It will be asked: what is the practical use of this book for the public?

First of all, there is behind it scientific authority: the experiences and the conclusions of one whom I consider to be a leading Clinical Analytical Expert.

Then there is individuality: there is allowance for the individuality of the patient, although the results and conclusions are based upon the experiences, not only of myself, but of many hundreds of others as well.

It may be as well, in order that the reader may realise the practical nature of the book, to describe what our method is, when a patient has the Threefold Examination and the full Individual Health Course.

A person comes, suffering from various troubles. All that the patient knows is that he or she—we will speak of the patient as " he " in the future—has certain pains or headaches or other disagreeable symptoms, and that these have been diagnosed differently and treated differently by different doctors. But, for the sake of clearness, we may consider one individual case. It is not altogether a typical one, but it is an instructive one.

The patient does not, in this particular case, desire to know all the technical details. He simply wants the treatment. But he wants to know *something* about the cause. The Threefold Examination, and a thorough investigation of his past and present diet, way of living, etc.,

reveal the following facts, and lead to the following advice. We can put it in the form of advice given to the person by word of mouth.

"*Yours is, first of all, a case of Uric Acid. You must give up certain things absolutely, particularly the meat-extracts; you must cut down certain other things by degrees, particularly the red meats. You had better continue with the fish and chicken for the present, and not make the change too violent. Later on, you can cut down these things also; but for certain definite reasons, we would rather, in your case, that the change was a gradual one.*

"*Secondly, yours is decidedly a case of Carbohydrate over-acidity. You must give up certain things absolutely, and other things as a general rule. You must absolutely give up sugar, jam, etc. You must give up, by degrees, puddings, porridge, cakes, macaroni, potatoes, etc. And later on, perhaps, you will be able to reduce considerably the quantities of toast, biscuits, rusks, etc., till you are normal.*

"*Then, yours is a case of what we may roughly call Sulphuric Acid poisoning, as is proved by the Chromogens. You must give up or cut down the amount of eggs. At present you are taking, on the average, in different forms, three eggs a day. You must not take more than one.*"

And so the different kinds of poisoning are treated with reference to their causes.

"*Then, you must avoid wrong combinations of foods. Hitherto you have been taking at the same meal vegetables and meat, followed by fruit. Most fruit goes badly, as a rule, after meat and also after most vegetables. You must try a series of one-course meals in the middle of the day.* (These are afterwards described in detail.)

"*There is decided deficiency of soda. You can supply this deficiency by means of lettuce and other green foods properly prepared, and also by a fine dose of a certain kind of Soda taken once a day an hour before one of your meals. We do not recommend any of the ordinary heavy doses of drugs: they really do not help in the least, though their immediate effect may sometimes be satisfactory.*

"*In your case there is deficiency of Vitality and Reserve-force. You must rest. This habit of yours of over-working yourself, merely because you feel energetic, is to be stopped.*

"*Then you must adopt certain health-practices. You must master the habit of Deep and Full Breathing, though it will take some time, and you must go in for certain water-treatments, mental helps, and so on.*" (These are described later.)

Such advice is largely founded on the Threefold Examination, which enables Mr. Collings to give me information on which the general treatment can be based. And I know no one to whom I could apply with such complete confidence when it is necessary—for example—to distinguish between a case of Diabetes and a case of Alimentary Glycosuria, or between a case of Bright's Disease and a case of Albuminuria.

Mr. Collings is not a qualified medical man, and indeed qualified medical men are not qualified to examine the living blood, to analyse the urine *thoroughly*, and the excreta. Mr. Collings makes actual and thorough examinations, and reports to me the individual phenomena, side by side with other phenomena—that is to say, he uses them comparatively. Mr. Collings, also, in the light of his considerable experience, makes valuable suggestions as to the treatment of individuals.

He takes into consideration the entire environment. On one occasion, for instance, he pointed out how the neighbourhood of a powerful electric supply station must have affected the health; in another case the soil; in another case the drainage; and in another case a badly

constructed gas-stove was cited as a causative factor in the trouble.

And then there is the factor of the mental conditions—especially in the case of the weak-minded. Unless one can take into account the mental calibre of the individual, one is liable to suggest an unpractical treatment.

Then, again, there is the desire to make money at all costs.

In all these different ingredients in the individual make-up, which have to be considered, Mr. Collings' help throughout has been invaluable. He has constantly reminded me of little points which otherwise I should have ignored.

It was at my request that he gave that excellent review on Dr. K. Haig's book on Diet, in my magazine "Healthward Ho!" This was the starting-point of our work together on "The Uric Acid Fetish."

MAR 1 1922

I.—A CHAPTER OF PERSONAL EXPERIENCE AND CONVICTION

By Eustace Miles

NOT long ago, at an important meeting, I met some one who had been through similar experiences to my own. He had given up flesh-foods altogether, and had benefited enormously in health. The difference between us two was that he assumed that every trouble of every person must be due to flesh-foods, etc., while I was quite sure that many troubles of many people were due to entirely different causes. I could not convince him at all. I simply had to say that in quite a vast number of cases the avoidance of flesh-foods, and, indeed, the avoidance of Purin-foods, had not produced a cure. During the first period there might have been an improvement, but after that the improvement stopped.

It is on such cases as our two cases are that the Uric Acid theory has been founded. It has been assumed that, because certain people have benefited almost incredibly in health, or were restored

from ill-health to almost thorough fitness, by the avoidance of flesh-foods, therefore every other case must be the same.

In my case a mixed diet, taken perhaps to excess, anyhow produced bad results. In spite of the excellent conditions—exercise, rest, a healthy neighbourhood, etc., and the quality of the food—there had been in my case indigestion, depression, constipation, sluggish liver, bad sleep with nightmares, kidney trouble (diagnosed by several doctors as Bright's Disease), toothache and tooth decay, constant colds, constant coughs, cramp, and frequent breakdowns. There had been a regular need of exercise ; otherwise I should have felt worse than ever.

Then I adopted a fleshless diet, almost absolutely from 1895 to 1900, and absolutely from 1900 to 1914. It was not a haphazard diet. I tried various proteids, arriving eventually at the most satisfactory kinds for myself as an individual ; and the result was good health. I did more work and better work, and I did it more easily, and, above all, there was this point—I kept in training without regular exercise. I have gone for three months practically without exercise, then have played a severe game of tennis

without feeling the strain. This is almost unique as an experience. I had hitherto been persuaded that, for a severe game like tennis, it was absolutely essential to have regular daily exercise, or else the muscles would deteriorate.

I must in all fairness say that during these years I have had other great helps, especially the practices of Deep and Full Breathing, of Stretching the muscles, of Relaxing the muscles, of Self-suggestion, of Self-massage; and, besides this, I have had the great help of my wife in all my work, not only at the Restaurant, but also in advising Health-pupils, writing articles, and so forth.

And perhaps one of the chief helps to health has been the fact that I have been trying to help others.

But the diet factor has been absolutely essential to my health and well-being. Naturally, when I gave up the flesh-foods and took in their place other body-building bases, I arrived at the conclusion, after reading Dr. A. Haig's books, that Uric Acid was the chief, if not the only, cause of my own past troubles.

It is true that I realised other disadvantages of flesh-foods, especially from the Humanitarian

and Æsthetic points of view; but I never associated my troubles with anything else except Uric Acid; otherwise I should not have written my book, "Muscle, Brain, and Diet." I did not associate my troubles with what we may call by the algebraical term *x*, or what we may call *x plus* Uric Acid. This *x* may include the coarse fibre, and the various toxins of flesh-foods, and the more subtle "psychic" forms of toxins which are included in the use of flesh-foods. And *x* may also include excess of Carbohydrates (or starchy and sugary foods) usually eaten in combination with flesh-foods; and of Milk; and so on.

My conclusions were published in the above mentioned book, which created a very wide interest. I stated these conclusions cautiously. The keynote of the book was: "Be open-minded. Look at things in a new way. If you are not fit yourself, try the ideas fairly and judge them by their all-round results."

Then I began to give advice to others, and my Health-pupils have reached many thousands by now. The advice was at first rather crude, being based chiefly on the Uric Acid theory; but I always tried to bring out the same keynote as before, as far as I possibly could: "Try the

methods fairly, and judge them by their all-round results."

I had a good deal of experience, and received a large number of valuable testimonials. I remember to this day, as if it had only come to-day, a delightful letter from someone who had been cured of Sciatica and Varicose Veins. He had visited many doctors and many physicians in vain, and then he had tried a diet free from Purins, and had been cured, though the specialist had told him he was incurable. But I did not conclude that a similar diet would cure every one.

It may be as well to emphasise that my own case was very decidedly one of Uric Acid, or of Uric Acid together with other mischiefs found in flesh-foods. For on four distinct occasions I have taken meat-extracts or meat-juices unawares, and have suffered. On one occasion I suffered when I was playing a tennis match. I did not know that the food which I had eaten before the match included a sauce that was made with meat-juices. But, anyhow, when the game began (against Sir Edward Grey, at Cambridge) I lost the first two sets through slight cramp; then the cramp passed off, and I got back my own game. On another occasion, it was a so-

called tomato soup, made with meat-stock. On a third occasion, it was an extract which had been given to one of my publishers for me to try.

I was staying with the publisher, and he ask me to test it. He assured me that, as it was sent for my trial, it could not possibly contain flesh-food extract ; but it gave me cramp, and I found out afterwards that it was an ordinary meat-extract. And on one other occasion, at a well-known popular restaurant, I had some stuffed aubergines, and these contained some meat as well, and I suffered afterwards.

After I had published my first book, I was led to pay more attention to the flavours of foods. A kind critic convinced me that the flavours of food corresponded very closely to the interest of books and articles. Without this incentive, the material was often not properly digested.

Then I paid more attention also to the natural "salts," especially those that are in the juices of vegetables, whether the vegetables be cooked conservatively, or whether they have their essences extracted by simmering or by pressure.

Then—and this is perhaps as important as any change—I was enlightened as to the bad effects

of an excess of Carbohydrates, an excess from which the orthodox diet suffers considerably.

I got more success than ever through recognising these principles in my treatment of various cases. But still there were some people who refused absolutely to change their diet, especially in the direction of giving up flesh-foods. They said they did not want to become " vegetarians," and no amount of persuasion—that Food Reform did not mean a diet of sloppy vegetables—had any effect upon them ; so these people were not fair tests of my treatment.

And, on the other hand, there were some failures. Anyhow, there were enough failures to show that, without a proper diagnosis, the diet free from Purins was not by itself a panacea.

I have met exponents of various health theories, for instance of the " no-breakfast theory," and I have come across cases of failures of every single hard and fast plan, after people had tried it fairly. But none of the cranks recognise the failures. Nearly all of them go on calling their narrow way a panacea that cures all troubles and all people. This is not fair play.

Then I made other private experiments, and I had the extraordinary advantage of watching

the results of the diet (or rather, the many diets) at the Eustace Miles Restaurant. The further enlightenment enabled me to avoid some of the mistakes of the past; and, especially, I was helped in getting new ways of "filling up" (for most people want to feel fairly satisfied after a meal), without excess of Carbohydrates. This has always been a serious obstacle in the way of Food Reform.

Then came my work with Mr. Collings, the Threefold Examinations being applied in hundreds of cases.

It was a great education for me. I may select two typical cases where the Threefold Examination enabled us to effect a cure, when the ordinary Purin-free foods had proved a failure. I will not mention names, but simply call the people, as medical men sometimes do, by the letters A and and B.

The first case, A, (not unlike the case quoted on p. 19), was one in which a lady absolutely refused to give up the flesh-foods. She suffered from Sciatica, with which she was almost lame, but she said she could not entirely do without fish and chicken. And chicken, according to the tables of analysis, contains more Uric Acid and

Purins than ordinary meat does. Mr. Collings said this was not a case of Uric Acid, but largely of Carbohydrate over-acidity. We cut down the amount of Carbohydrates, and we advised certain finely-diluted and triturated " salts " which were needed, and the result was a cure.

The second case, B, was a case of Anæmia. We advised one homœopathic tincture and one trituration. The doctors would, of course, have laughed at the small amounts, but the result, again, was a cure.

Mr. Collings' experiments and experiences convinced me of the principle of the tissue-storage of various poisons, not only of Uric Acid, but also of Urea, the different Chromogens, and also different drugs—Aspirin in particular. Aspirin may remain stored in the tissues for many months together.

The general conclusions that I have been obliged to draw are the following :

First of all, Uric Acid is sometimes an important factor ; sometimes perhaps it may be the only important factor, but we have had no case of this yet out of many hundreds. We may safely say, however, that sometimes this may be the chief factor, or a partial factor.

Other acids are sometimes wholly or mainly or partly the cause of the trouble. This is not mere guess-work, but is based on hundreds of Threefold Examinations. For example, there are five or six different ways in which one can prove Carbohydrate over-acidity (or over-acidity due mainly to excesses of starchy or sugary foods) not necessarily caused by mistakes in the present or recent diet, but going back to the wrong diet in past years. There are simple ways in which one can prove the retention of Urea, and there are ways in which one can prove the retention of Chromogens.

Uric Acid troubles are among the easiest and quickest to cure. The worst case we ever had was cured in a very few months. That is to say, it was a case in which Uric Acid was predominant; but in a few months Uric Acid had ceased to be a factor in the problem; and yet some of the distressing symptoms continued. They were mainly due to entirely different causes.

The Carbohydrate over-acidity—by this we mean not merely the feeling of indigestion and acidity, of which people ordinarily complain, but a state of the blood and system, shown by the colour of the blood and other signs—is perhaps

the hardest and the slowest kind of over-acidity to cure. Those who have been on the Purin-free diet for years may still continue to suffer from this cause year after year.

Quite apart from the Threefold Examinations, I have had to recognise individuality as one of the main factors in the problem of cure and prevention.

First of all, there is the individual immunity. What may be a poison to most people may not be a poison to certain individuals.

On the other hand, there is what may be called individual over-liability ; sometimes it is for all kinds of acidity, sometimes it is for this or that particular kind of over-acidity. Thus, one person may be over-liable to Uric Acid, another person over-liable to Carbohydrate over-acidity. It must largely depend upon hereditary tendency, and pre-natal influences, and, far more than has yet been recognised by the medical profession, upon the diet taken during the first few years of life. I could adduce instances in which people have what one may almost call a genius for creating Uric Acid or Carbohydrate over-acidity in spite of carefulness to avoid the foods which contain an excess of the supposedly guilty elements.

Above all, I have been convinced of the importance of a proper diagnosis, particularly by the Threefold Examination. There is no reason why other kinds of examination should not be included. In fact, if people could afford to pay for it, probably a Tenfold Examination would be possible. But at present we have had no time to extend our methods ; we have had too much to do in dealing with urgent cases.

The system of proper diagnosis is quite distinct from the system of listening to symptoms, and concluding that these symptoms must be due to some one cause. Suppose, for instance, a person has a headache very frequently, and swollen joints, and Neuritis ; this is classified as a " gouty " or " rheumatic " disorder. Then certain medical men generally rush to the conclusion that it is a case of Uric Acid, and, if they prescribe any diet, prescribe a diet free from Purins, giving the patient to understand that, if the Purin-free diet is taken, all will be well. Perhaps they also prescribe drugs which are supposed to dissolve Uric Acid.

Now, suppose this is a case of Carbohydrate over-acidity, not of Uric Acid at all ; then those

drugs, etc., will certainly be mischievous in their results.

The present attitude that I take is not that Uric Acid troubles are unimportant, for in my own case, probably, they were very important indeed; but that they are comparatively easy to cure by diet, the drinking of vegetable-juices last thing at night, and other simple helps; and that the diet need not necessarily be in all cases free from Purins.

Another conclusion is that other acids, particularly the Carbohydrate over-acidity (due to too much starchy and sugary food), and the tissue-stored poisons, including the Chromogens, and the Crystals, cause great trouble in many cases.

I am not alluding here merely to the poisons caused by constipation and intestinal putrefaction, which the medical profession is beginning to recognise as a fertile source of trouble, but poisons from Carbohydrate excess, Lactic Acid excess, and also poisons from wrong thoughts and wrong emotions.

I conclude that other methods of diagnosis, in addition to the present ones as used by the medical profession, are urgently needed.

Let me enforce this conclusion by a very good case. It is a case of Carbohydrate over-acidity treated as if it had been simply a case of Uric Acid. The conclusion that it was simply a case of Uric Acid was based upon the symptoms, and upon tests by the colour of the tongue, and the state of blood-pressure, and the reaction-time after the surface of the hand had been pressed by the finger. Now all these signs, which had led the specialist to conclude it was a Uric Acid case, could equally well have applied to a Carbohydrate case, as in this particular instance. The Purin-free diet had not cured the person. When that person came to us, he was comparatively free from any excess of Uric Acid which could have caused any trouble worth considering. But he suffered severely from Carbohydrate excess ; and, instead of having to go on still (as he has been doing) year after year with a Purin-free diet, excessive in starch and sugar, hoping that this would bring his ailment to its end, he was put on a diet with very little of the Carbohydrates, and with other elements rightly balanced, and very soon he became quite well.

In my own case the strongest arguments in

favour of the meatless diet now are, not that meat contains Uric Acid, but that the meatless diet is humane and "humanitarian," æsthetic, economical, and altogether in the direction of civilisation and progress

On the other hand, I do not insist that people shall adopt the diet simply from these motives. If they like to adopt the diet because they think it is free from Uric Acid, let them do so, and they will reap a certain amount of benefit. But what I wish to emphasise is this: that the Uric Acid element, *per se*, is by no means the most important. The sooner the public recognise this, and trace the mischiefs right away to their actual sources, the better it will be for the health of the individual and of the nation.

II.—SOME GENERAL NOTES

By Eustace Miles

I CANNOT but admit that there is a great deal of value in the Uric Acid Theory.

My own personal experience bears this out (see p. 27 and following), though I owe part of my present health of mind, as well as of body, to the Humanitarian idea, to the avoidance of excessive bulk, the avoidance of excessive Carbohydrate (or starchy and sugary) foods, and also to deep and full Breathing, and Muscular Relaxing, etc. Still, in spite of all this, I feel a debt of gratitude to Dr. A. Haig for having taught me so much by his writings, and by his exposition of the Uric Acid Theory. It has been the greatest blessing to me in the last (upwards of) twenty years of my life.

My criticisms, when I attack the Uric Acid Theory, have all the more force since I plead to having written in favour of it almost as emphatically as Dr. A. Haig still does. The only excuse that I can give is that, instead of saying "This is the cause of all troubles," I advised people

who were not satisfied with their health to try the Uric-Acid-free or Purin-free diet, and eventually to judge by all-round results. I did my best to avoid dogmatism.

And my criticisms also will, I think, have more force when I say that I admit the good of the Purin-free diet in some cases, and when I actually advise it in the majority of cases for my Health-pupils, though I do not often advise a sudden change, and I do not advise the change in every case.

My criticisms on the Uric Acid Theory will also, I think, have still more force when I say that I admit the faults of other diets as well.

First, let me attack the orthodox diet, as represented by the ordinary mid-day meal of the well-to-do upper and middle classes. I need not describe this here in detail; suffice it to say that it might include at least one kind of flesh-food with meat-gravy, two badly-cooked vegetables (served without their precious juices), a certain amount of salt and pepper and mustard, possibly a fair amount of white bread (deprived of some of its vital elements in the process of milling), and the awful thing known as a pudding —utterly unnecessary after vegetables have been

taken at the same meal. Of the drinks of this meal I say nothing here. The meal may conclude with a little cheese and bread or biscuits, and possibly, in rare cases, a little salad dressed with oil and plenty of vinegar.

Such a meal is wrong, not merely because of its Uric Acid or Purins, but also because of the great excess of Carbohydrate (or starchy and sugary) foods, and, if much butter and cheese is taken, foods that tend to Butyric and Lactic Acid as well, perhaps, in certain cases; and also because of its deficiency of the natural "salts"; and because of the excessive variety—because, that is to say, it contains what Mr. Collings calls "incompatibles."

I condemn also the typical "vegetarian" diet, especially when it is taken by one who is leading a sedentary life. There is little wrong through Uric Acid and Purins as a rule; the chief mischief is through excess of Carbohydrates, often producing over-acidity of the most insidious and dangerous kind, and also perhaps immediately, or almost immediately, fermentation, with its after-effects.

I condemn, for a similar reason, the typical Uric-Acid-free diet: that is to say, a diet which

may or may not have some special Proteid base, but does contain excess of Carbohydrates; and perhaps excess of elements that tend towards Lactic and Butyric over-acidity. I need only refer once more (see p. 122) to Dr. A. Haig's own diet, quoted in his great work. The mistake of the typical Uric-Acid-free diet is, once again, the excess of Carbohydrates, because of their after-effects, and because of their immediate effects in the shape of fermentation. Such a diet is also usually too bulky, and too "mixed," yet rather monotonous owing to its deficiency of flavour and of good consistency.

One may notice these two points in advance: That the ordinary Purin-free diet, like ordinary "vegetarianism," and like the ordinary orthodox diet, does not allow for individuality. Thus, if cheese disagrees in the Purin-free diet, then it is useless to go on recommending cheese; and, if a certain amount of Proteid is excessive in one case, it is useless to go on advising that amount, as if there were a law that so many grains or grammes of Proteid was absolutely the right amount, regardless of individuality, and merely in proportion to body weight.

My chief reason for judging any diet adversely

is based on actual concrete all-round results. Thus the Purin-free diet has had some successes, but it has had a host of failures : failures after many years of faithful experimentation by conscientious individuals. I can call to mind dozens of such cases in which no one could accuse the individual of having deviated from the Purin-free diet, and yet that individual was not cured ; in fact, in some respects he was further from cure, probably, than when the Purin-free diet was started.

When I get these cases, which have generally been having excess of Carbohydrates, I know that it will be a long task to cure them. It is a short task to cure the Uric Acid trouble, and easy to get credit for this, but it is a long task to cure the Carbohydrate trouble—long and tedious and needing immense patience.

I assert emphatically that most of the cases which come to us as Uric Acid cases, cease to be Uric Acid cases after a period varying from a few weeks to a few months, if they ever were, to any great extent, Uric Acid cases at all.

How, then, it may be asked, have such cases been diagnosed as "Uric Acid"?

First of all, by symptoms, which are assumed

to be symptoms of Uric Acid and of that only. The advertisements (see p. 127 and foll.) confirm this view; so does Dr. A. Haig's book. Constantly people say to me, "I have so-and-so" (mentioning a certain symptom); "therefore I have excessive Uric Acid."

The causes are diagnosed by what may be called a want of diagnosis: perhaps, for example, by the mere output of Uric Acid. They say, "There is a quantity of Uric Acid in my urine; so I am a bad Uric Acid case." But the mischief is not the Uric Acid coming out. The mischief, if any, would be the Uric Acid retained in the system. *Often the troubles from which a person is suffering are not those which are indicated in the urine as crystals or acids, but rather those which are retained in the system.*

Here I might turn aside to answer, as I shall do more fully later on, one or two points.

It is said that the Uric Acid Theory has done great good. That is all the more reason why one should correct and supplement it; then it will do even greater good.

It may be said that this book is spiteful. That is not the spirit in which it is written at all I am not attacking the man—Dr. A. Haig—

I am attacking the idea, as stated by him as its best known exponent. My object is not to do any injury to Dr. A. Haig in regard to whatever truth there may be in the Uric Acid Theory, but to help on the progress of Food Reform, and to remove misunderstandings about it.

It is sometimes said that Uric Acid is a vague term and could include all sorts and kinds of over-acidity. But, if it includes the Carbohydrate over-acidity—the over-acidity due to excess of starchy and sugary foods—then obviously Uric Acid is a misleading term, for it does not induce people to cut off their excess of Carbohydrates. People simply cut off the Purin foods when they are told that theirs is a Uric Acid case. No individuals of my acquaintance have cut down the amount of Carbohydrate food because they have been told that theirs are Uric Acid cases.

To say that Uric Acid really means other acids *also*, is a thoroughly dishonest attempt to "hedge," to cover up a fundamental error. The term used to distinguish a generally acid condition is **acidosis,** and is to be found sprinkled freely through the related text-books. According to Dr. K. Haig, we even find Uric Acid in the

new-laid egg of the common fowl. Either nature is a fool—or some people are.

There have been some successes from the avoidance of Purin foods, but there have been many failures. And my opinion is that one failure of an unorthodox method has more effect than twenty successes of that method. People are on the look out for failure of a new plan : they like to see it! When a person tries a new plan, they say, "It is sure to fail." If it succeeds, they say, "It is an exceptional case." If it fails, they say, "I told you so : we will warn every one against it."

It has been maintained that the Uric Acid Theory is scientific. I answer emphatically that it is not. The advertisements of Uric Acid troubles (see p. 127 and foll.) are far from scientific. Mr. Collings' contribution to this book will prove conclusively that there is not strict science behind the Uric Acid Theory as usually stated.

In this part of the book I shall deal with the popularly accepted ideas as to the origins, results, prevalence, and cures of Uric Acid.

A word as to each of these points.

As to the origins :—Dr. A. Haig's theory, and the theories of Dr. Walker Hall, and of other

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people, have described the origins clearly. But it does not in the least follow that so much Uric Acid or Purins ingested into the body means so much retained in the body as Uric Acid and as a harmful factor. For the theory ignores, to a great extent, the protective barriers, such as the saliva, and the elements in the gastric and other juices; also the mysterious personal immunity of some people from the Uric Acid which may come from Purin foods; the theory ignores the solvents that are taken in the diet or drink; the theory ignores the elements that tend to retain Uric Acid (particularly the acid elements); and last, but not least, the theory ignores wrong analyses, which are by no means infrequent.

And, it might be remarked, the theory ignores the fact that a modicum of Uric Acid in the healthy body forms a normal bye-product of metabolism with which the system is as perfectly competent to deal as it is with, for example, the waste accumulated in the intestines. Compare their relative bulk and toxicity.

As to the results:—Here the theory has done the greatest mischief by exaggeration and by want of science.

First, there is the theory that so much of Uric Acid in the form of food becomes so much Uric Acid in the blood and tissues. Secondly, that all mischief is due to Uric Acid, as distinct from the combination of Uric Acid or Purin foods, let us say, with excess of starchy and sugary foods and with other elements.

Mr. Collings and I have had cases of Headaches, Sciatica and Neuritis, Swellings on the fingers and other joints, Asthma, Eczema, Gouty pains, and so forth—cases that can be reckoned by the hundred—in which it is clear to the Expert which acids are at fault. *And the majority of these cases have not been due mainly to excess of Uric Acid.* They have been due to other acids, instead of, or in addition to, Uric Acid.

As to the prevalence of Uric Acid :—Mr. Collings, in his Threefold Examinations (especially the examinations of the living blood, and of the crystals and acids in the urine, and so forth) has proved conclusively that Uric Acid is not nearly so prevalent as the advertisements and the leading exponents of the Uric Acid Theory assume. I have notes of over three hundred cases in which Mr. Collings has made exhaustive analyses of the urine, etc. In very few of these

cases, comparatively, is Uric Acid an important factor in the trouble.

As to the cures :—the Theory grossly exaggerates the amount of time it takes to cure a typical Uric Acid case.

It may be granted that, when the wrong treatment is given, the cure may take longer; but, when the right treatment is given, the cure takes only a very short while.

Another aspect of this point, with regard to the cures of Uric Acid, is the cures by drugs. I need only refer to Dixon Mann's impartial statement (see pp. 99–100) to prove that the so-called infallible cures of Uric Acid by drugs are to a great extent unsubstantiated by clinical experience.

Secondly, many of the cures are due, not simply to the avoidance of Purin foods, but to moderation and abstinence in general.

Our way agrees with Dr. A. Haig's way in one respect : namely, that he insists on a sufficiency of Proteid, which is not merely a body-building element, but—though Dr. A. Haig does not seem to be aware of this point—is also a solvent of Uric Acid through Ammonia, and supplies a gentle tonic to the system. But we also have

many other means of cure, including the drinking of soft water and pure vegetable-juices, and the taking of such medicines as the Threefold Examination shows to be required by the individual, in minute doses.

An interesting point here is, why the Salisbury cure was so often successful. The success was not because of the Uric Acid or Purins contained in the flesh-foods! It was partly because the freedom from Carbohydrates tended to release certain tissue-stored poisons, and to get them into circulation on their way out of the body.

In my treatment I modify the Salisbury Diet, giving, as far as I possibly can, meatless foods instead of flesh-foods: I give them, as a rule, as free as possible from excess of Carbohydrate (or starchy and sugary) foods. In addition, I generally prescribe certain pure vegetable juices to be sipped last thing at night, and certain fine triturations or solutions, as required by the individual, according to the results of the Threefold Examination.

We base our treatment chiefly on diagnosis and individuality. Those are the keynotes of such success as we have had.

Two examples will help to make our method

clearer. The first is that of a man who came in great distress, both physical and mental. His case had been diagnosed as a Uric Acid case, and certainly it was. If ever a Uric Acid case existed, this was one. He seemed to have a perfect genius for manufacturing Uric Acid out of the (apparently) most inadequate sources! But, in addition, he was labouring from trouble through Carbohydrate over-acidity, and also through certain Chromogens. There were other factors in his case, besides.

Now we kept him on a diet almost free from Purins, and certainly free from excess of Proteids; and we put him on a diet, as far as we could manage it, free from excess of Carbohydrates, and with the proper elements from green vegetables, etc. I need not enter into the other details, except that oil was prescribed in his case, as being badly needed by the intestinal tract. I am only giving here a few of the points of our advice. I shall not enter into the question of baths, deep and full breathing, exercises, muscular relaxing, mental helps, and so forth. Nor shall I give details about the fine triturations, etc., and the distilled water which were prescribed.

As the result of this treatment, in a few months, the Uric Acid had ceased to be a factor in the problem. It was no longer a Uric Acid case, but still some of the troubles persisted, and these troubles were due in the main to excess of Carbohydrates, going back several years, and persisting in spite of strictness in this respect. It was not a case of Diabetes, nor of Alimentary Glycosuria. It was a case which has no name at present; for Dr. Francis Hare's name of Hyperpyræmia is not altogether satisfactory.

By degrees the Carbohydrate over-acidity was lessened, as was proved by certain unmistakable signs; and, in addition, the Chromogens came out freely. The case might, indeed, be regarded as an almost entire cure, except for the continuance of a little sleeplessness, and a little nervous irritability. But the old pains and horrors had disappeared.

Yet, though we had warned the patient against overwork and against chill, he worked harder than ever and exposed himself to chills. Then there was a set-back; but this rectified itself after a certain time. We insist, in the great majority of cases, that during the process of cure, in severe cases, there shall not

be overstrain, there shall not be anxiety, and there shall not be chill. These three points we consider of vital importance.

The second case had been treated for a long time as a Uric Acid case. It is doubtful whether it ever was one to any great extent. Even in the olden time, before the Purin-free diet had been begun, the troubles could hardly have been worse then they were when we saw him. It was really extremely serious. We could not do anything in this case in the way of cutting off the Purin foods, nor in cutting off excess of Proteids. Both these possible factors had to be left out altogether as factors in the problem, because of the strict diet which the person had been using for nearly seven years. Yet the unfavourable symptoms continued—the Gouty and Rheumatic disorders, the nervous irritability, and a whole number of other unpleasant signs. This was one of the most tedious cases that could be imagined, and it was aggravated by the fact that the patient refused to avoid chills, but would insist on having an air and light bath frequently, and using cold water, and working even harder than before. In spite of this, however, the output of all crystals and of all poisons and toxins (including

the Chromogens) was enormous, and there was constant progress, and now the person may be regarded as having an altogether different body. It will take a year or two before the cure is complete. This was an exceptionally difficult and complicated case, but it shows how the Uric Acid Theory did great mischief. The person was beginning to lose faith in it and in Food Reform altogether, because beyond a certain point it had not been of the least benefit to him, except on Humanitarian and Æsthetic grounds. On all other grounds—on the ground of comfort and enjoyment and so forth—after the first month or two, he scarcely improved at all, and the Threefold Examination showed that probably he had become, in some respects, very much worse.

We want to judge each case on its own merits, and prescribe for each case its own individual treatment. It takes a long while, and we warn the patient that he or she must be patient in the true sense of the word. We warn him or her that the turning out of tissue-stored poisons is a laborious process, taxing the body sometimes to the utmost; but that the turning out of these old poisons (not only the poisons created by the

person, but the poisons taken in the form of such drugs as Aspirin, etc.) is an absolute necessity if real health is to be obtained and maintained.

When people ask us how we know that the poisons are being turned out; how they are to know that the cure is going on, and that they are not being starved, our only answer is, in truth, the Threefold Examination. We are able to show them, by the result of this, that certain toxins, certain crystals, and so forth, are actually passing out of the body, and that these could not have been due to any mistakes in the recent diet, and therefore must go back to the more or less distant past. But we cannot show them how to test their own progress in the elimination of acids and tissue-stored poisons, for the simple reason that their own symptoms and feelings are fallacious, and objective tests require technical knowledge and careful technique to apply.

III.—THE CURRENT POPULAR VIEW, ESPECIALLY OF THE FOLLOWERS OF DR. A. HAIG

By Eustace Miles

I HAD better begin by stating Dr. A. Haig's theory as fairly as I can. Dr. A. Haig's theory is best known through his books, and through the books of those who have written in his praise. I have explained elsewhere (see p. 150 and foll.) why I have chosen Dr. A. Haig as the representative of the theory that all Gouty and Rheumatic and many other classes of disorders are due entirely or mainly to Uric Acid. Briefly, the theory is, to all intents and purposes, as follows :

(1) Uric Acid is found sometimes in solution, sometimes in gluey, sometimes in crystalline forms.

(2) Uric Acid comes, apart from other sources, from :

Meat-Extracts, including Meat-Stocks, Meat-Soups, Sauces, Gravies, etc.

Flesh-foods of all kinds, more or less, according to the particular flesh-foods. (See Appendix of Table of Purins in Foods.)

The Pulses—namely: Peas, Beans, Lentils, and Pea-nuts.

Tea, Coffee, Cocoa, Chocolate.

Yolk of Eggs, especially if they are not fresh.

Mushrooms and Asparagus.

Oatmeal and Wholemeal, but not White Bread, and some other Foods and Drinks.

(3) Other sources of Uric Acid include excess of Proteids. (See also No. 5.)

The theory includes this idea: that the amount of Proteid needed by the individual is in proportion to his normal body-weight, though authorities differ as to the exact amount of Proteid required in proportion to normal body-weight.

The test is to be by the amount of Urea excreted. This, as we shall show, is fallacious.

(4) In proportion as you eat or drink these (so-called) Purin foods, or excess of Proteids, you mathematically ingest precisely so much extra Uric Acid, as Urid Acid, into your system, according to the amount of Uric Acid which is in

each of these foods by chemical analysis, and you have to get rid of the extra Uric Acid, or retain it as Uric Acid at a disadvantage to your system.

(5) (*a*) Cold, and (*b*) the taking of certain acids, such as acid fruits, tend to make you retain the Uric Acid.

The retention of an amount of Uric Acid represented by x; is equivalent to the ingestion of an amount of Uric Acid represented by x. That is to say, it comes to the same thing, in the end, whether you add fresh Uric Acid, or whether you fail to get rid of the Uric Acid that is already in you.

(6) Warmth tends to make you get rid of Uric Acid.

(7) Certain drugs, such as Salicylate of Soda, under certain conditions, in heavy doses, tend to make you get rid of Uric Acid.

By inference, any other effects of such drugs may be ignored. That is to say, drugs are good in so far as they help you to excrete Uric Acid, but any undesirable results, which they may have afterwards, may be left out of the question altogether, if Uric Acid is practically the sole cause of various physical troubles.

(8) Whenever there are certain gouty and rheumatic and other troubles (see Dr. A. Haig's list, below), Uric Acid exists in the body in large quantities, and is a powerful poison in every case.

Uric Acid is the main and chief cause—not quite the whole cause, but so great a cause that others are negligible—of a host of diseases and troubles, both physical and mental, and in particular of all the gouty and rheumatic diseases and troubles.

Dr. Alexander Haig's work on "Uric Acid as a Factor in the Causation of Disease," is offered to the public as a contribution to the Pathology of :—

High Blood-pressure.
Headache.
Epilepsy, Convulsions, and Hysteria.
Mental Disease, Fatigue, and Syncope.
Asthma and Bronchitis.
Paroxysmal Hæmoglobinuria and Anæmia.
Albuminuria and Bright's Disease.
Raynaud's Disease.
Glycosuria and Diabetes Mellitus.
Dyspepsia and Gout of the Intestines.
Gout.
Rheumatism and Morbus Cordis.
And other Disorders.

Remove the Uric Acid and the rest of the cure is simple.

It follows from this, as a corollary, that, whenever there are any of these troubles, then they are due, at least mainly, to certain foods or drinks. And not only this, but they are due, at least mainly, to no other elements in those foods, except the Uric Acid in them.

(9) The proofs that excessive Uric Acid is in the system at a given time are—

(*a*) Any of these symptoms (see No. 8):

(*b*) The Colour of the Blood, as tested by a certain set of colours which can be bought from a certain publisher.

(*c*) The Blood-pressure.

(*d*) The Excretions of Uric Acid afterwards in solution or in crystallised forms.

10. The chief proofs of the theory include some cures, especially cases in which some one or more of the above symptoms were present, but disappeared when Uric Acid or Purin food was cut out of the diet.

Dr. G. A. Gilbert thus describes Dr. A. Haig's theories :—

"*HIS THEORY.—Haig is of the opinion that if the raw material* (*nucleins and purins*), *from which exogenous*

uric acid is derived, be entirely cut off from the food which we ingest, the body will have no trouble in taking care of that other portion of uric acid (endogenous), which is derived from muscle metabolism and the breaking down of the tissue cells within the organism. He firmly believes that the various uric acid troubles which afflict mankind are due to the introduction of "food poisons"; and that, if care be taken to ingest purin-free foods only, the organism will be enabled eventually to rid itself of the accumulation of stored-up urates in the tissues, and remain in a healthy condition thereafterward: i.e., so far as uric acid is concerned, and provided no more "raw material" is ingested. He has consequently become a strict vegetarian himself, and strongly advises all of his uric acid patients (and their number is by no means small) to follow his example. He claims that, by this means, his own sufferings have been made to disappear, as well as the sufferings of hundreds of others.

"CONCERNING DRUG ACTION.—Haig classifies all uric acid disorders under two heads, viz.:

"1. Collæmic. 2. Arthritic.

"In disorders of the former class, the urates are still in the blood, and the symptoms are caused by the blocking up of the capillaries with uric acid in a colloid, gluey, or semi-gelatinous form. In those of the latter class, the urates have been precipitated out into the tissues, therefore the blood is temporarily freed of uric acid.

"He classes uric acid remedies under two heads: viz.: 1. *Solvents (heat and alkalies).* 2. *Precipitants (cold and acids).*

"By means of the "precipitant" remedy, disorders of the "collæmic" class (headaches, etc.) are relieved, owing to the driving out of uric acid from the blood into the tissues. By means of the "solvent" remedy, disorders of the "arth-

ritic" class (rheumatism, etc.) are relieved, owing to the resorption of uric acid from the tissues into the blood.

"He says: There is thus a law that all local precipitation diseases are relieved by solvents, and that all collæmic diseases are relieved by precipitants; in other words, by those things which clear uric acid out of the blood and drive it into the fibrous tissues—these being but two sides of the same process. More than this, by the administration of solvents or precipitants, we can produce at pleasure a member, either of the collæmic or of the arthritic group, and change the one for the other at will. Indeed, I very frequently ask patients which they prefer to have, as I know that in curing the one I must produce the other. In serious cases, there is, of course, no choice—one must choose that which is least deadly to life, and that is generally a member of the arthritic group."
—("*Uric Acid*," *pp.* 110, 111, *and* 218–220.)

We may mention here that Dr. Gilbert omits the obvious third alternative; namely, treatment directed towards the *elimination* of Uric Acid from the system altogether.

IV.—THE POPULAR TREATMENT

By Eustace Miles

OBVIOUSLY, it follows from this theory that the popular treatment is simple.

There must be a diet free from Purins. The list of Purin-containing food is given in an Appendix.

To this must be added a diet free from excess of Proteids.

One asks here, in anticipation, what if this be not a case of Uric Acid over-acidity at all, but a case of Carbohydrate over-acidity? When we refer to Dr. A. Haig's diet (p. 122), we need not wonder that such dietaries, though free from excess of Purins, have developed into a breakdown, and perhaps even developed into worse gouty and rheumatic troubles than the ones which existed originally. For the diet contained excess of Carbohydrates, and porbably also of Lactic Acid, and it may be of Butyric Acid.

The second class of treatment is by drugs. Here we may refer to Dixon Mann's classical

work, where it deals with the effects of the drugs which are supposed to be solvents of Uric Acid. (See pp. 99–100.)

And we may also refer to the papers which advertise certain drugs as perfect solvents of Uric Acid; and not only that, but also as a perfect cure for any and every kind of Uric Acid trouble. (See p. 127 and foll.)

In addition there is warmth; *e.g.*, warmth by fire, through clothes, or through physical activity.

V.—ARGUMENTS FOR DR. A. HAIG AND HIS THEORY

By Eustace Miles

THE idea of Uric Acid being a cause of trouble, and the idea of some of the sources of Uric Acid is correct; especially the idea about Flesh-foods, if they are combined with excess of Carbohydrate food (that is, starchy and sugary food), or with excess of fruit. But that Flesh-foods by themselves, particularly when taken with hot water and very little else, are a source of Uric Acid in excess in the human system in all cases, has not yet been proved to the satisfaction of any scientist.

That excess of Uric Acid may produce certain unpleasant effects is beyond doubt. For instance, it may produce headache in certain cases.

And it is quite true, as Dr. A. Haig says, that the results of Uric Acid over-acidity may be not only physical, but also mental and moral.

Mrs. Bramwell Booth has effected great cures of inebriate women by means of her "vegetarian" diet, and I have had excellent testimonials

from my Health-pupils, confirming these results—namely, that foods which are free from Uric Acid and Purins, if they are made into a well-balanced diet, tend towards mental and moral, as well as physical well-being.

Dr. A. Haig can support his ideas by a certain amount of scientific argument.

He is to be praised for endeavouring to get at an underlying cause, instead of treating each disease—that is to say, each particular symptom—as if it were a particular kind of trouble. Instead of trying to treat each case absolutely separately, he has tried to classify the cases together, and to treat them on the basis of an underlying cause, which he endeavours to remove.

It is really a revolution in medical science when some one includes, under the heading of physical troubles, troubles supposed to be due to ethical, intellectual, and moral inefficiences—a certain amount of stupidity, a certain amount of sexual want of control, a certain amount of irritability, a certain amount of weak will, and so forth.

In a word, Dr. A. Haig's theory gives us a very simple classification, instead of isolating diseases and weaknesses which are really due to

the same causes. It is a reaction against the confused ideas which were too common, especially at the time when he began to write—and are still too common.

And his classification together, in one related group, of cases which have hitherto been separated, is very valuable, particularly in examples of real genuine Uric Acid troubles.

Dr. A. Haig wisely attempted to remove the cause or causes, instead of merely the symptoms.

He exposed the fallacy of the temporary makeshift remedies.

His researches opposed the idea that, because there were immediate seemingly bad results apparent, therefore the attempt at cure was a failure. We owe him a great debt for this one contribution alone.

Then, again, he has done good service in making a clear case. The public likes a clear case.

On the clear case can be based clear and definite remedies; which, again, the public likes.

For example, he says, Beware of such acids as tend towards the driving back and retention of Uric Acid; take certain things which are supposed to be solvents of Uric Acid, and avoid the foods which contain excess of Uric Acid.

All this is definite, and therefore such advice as the people are likely to obey, coming, as it does, with the authority of a man with a high medical degree.

Then, again, he did not advocate haphazard "vegetarianism." In fact, he has done enormous benefit to the English people by opposing, consistently, haphazard "vegetarianism." He says, Do not take insufficient nor excessive Proteid, but take enough Proteid.

We must bless the creator of one clear idea, even if that idea is out of perspective in his mind. He made one think in a new way; in the same manner that Horace Fletcher makes one think in a new way with regard to thorough mastication.

Dr. A. Haig's theories are based on his own personal experience. Here also we have reason to thank him. So many people write extraordinarily elaborate praises of this or that thing which they have never tried—and which they never intend to try!

Dr. A. Haig must have had faith in his theory: that faith was shown by the fact that he experimented extensively on himself.

It is true that he had too cut and dried a system

for everybody. It is certainly too uniform. He does insist on enough Proteid, but he does also insist on a fixed amount in proportion to the body-weight—which is an entirely fallacious method of calculation.

He has exposed, and in a sense explained, the faults of the average and ordinary diet.

He has had a certain amount of success in curing people.

Then he has given help to many, and, if it had not been for him, probably quite a large number of people would never have made the least effort to cure themselves. They would have assumed, as the specialists had told them, that they were incurable, because the specialists did not know what was the cause of the trouble.

Some quotations from Dr. G. A. Gilbert's book may be added here, to show how much this American writer appreciates the value of Dr. A. Haig's theories in so far as they are correct :—

One great advantage of Haig's work lies in the clearness and thoroughness with which he has demonstrated how uric acid, by obstructing the capillary circulation, thus slowing the capillary reflux and causing increased blood-pressure, may become the exciting factor in the production of so many circulatory diseases. That it does so impede the flow of blood, he has proved conclusively. (*P.* 224.)

Under the irrational plan of therapy now in vogue, no

one would think of treating a disorder of the finger or toe joints by the same medicinal means as used in the case of the glandular organs. And yet we know that the "gouty" toe joint and "gouty" liver or kidney often go hand in hand. (*P.* 253.)

In the "uricacidæmic" stage of purin excess, we have such different disease-names or symptoms, as migraine, neurasthenia, hypochondria, insomnia, coryza, anæmia, odontalgia, neuralgia, etc. According to the present plan of therapy, these conditions are treated differently; but, if our plan of "ætiological therapy," as suggested in the last chapter, be followed out, they will oftener than not be treated alike. Under the old régime, when fever and pain are prominent symptoms, analgesics or antipyretics are given; for anæmia, a tonic; for insomnia, an hypnotic; for neurasthenia, hysteria or hypochondria, a sedative; for coryza, an antipyretic, analgesic, antiphlogistic, or alterative, either singly or combined. Such treatment relieves temporarily, simply because it masks or neutralises the symptoms. The cause itself is allowed to remain. (*P.* 225.)

We know that the symptom "inflammation," which is the one most commonly adopted in naming diseases under our present system, may be caused by a hundred different irritant factors, and it is unreasonable to expect that these different ætiological factors can all be removed by the same medical treatment. Or, on the other hand, many different symptoms may be caused by the same irritant factor, the symptomatic evidence depending on the anatomic character and location of the particular tissue involved. For instance, an obstruction of the blood-current may cause headache, or insomnia, or both, when occurring in the cerebral capillaries; leg or foot cramps, if in the vessels of the lower extremity; "biliousness," if in the hepatic or portal vessels; hæmorrhoids, if in the rectal veins; scanty urine, if in the renal vessels, and so

on. According to our modern nosological or symptomatic therapy, these different manifestations would call for quite different medicinal treatment; but, according to the rational ætiological therapy, suggested in our previous chapter, the same medicinal measures should be employed in each instance, i.e., *when due to a common cause.* (*P.* 254.)

. . . *It would seem that by slightly increasing the alaklinity and consequent solubility of the blood, the latter would be enabled to hold the urates in solution long enough to reach the kidneys, from whence they would be eliminated from the body entirely.*

But, instead of directing attention to the elimination of these threatened deposits, the general practice is to prescribe some effective agent to ameliorate the symptoms which they produce. In other words, something is given to relieve the subjective sensations complained of. If the most troublesome manifestation should chance to be a headache, toothache, mental and physical inertia, or wandering pains, accompanied possibly with a slightly rising temperature, the patient is almost invariably given an antipyretic or analgesic medicine —usually one of the coal tar products. Antifebrin, phenacetin, morphin, quinin, and remedies of this class are the favourites, the object being to afford immediate relief.

The patient generally appears satisfied with this makeshift mode of treatment, until constantly recurring attacks or exacerbations point out to him the necessity of having more radical measures employed, for which purpose he is forced to seek other professional advice. In ninety per cent. of such cases, however, the new attendant pursues a like plan of symtomatic treatment, and the primary disorder either becomes stubbornly chronic, or the rheumatic stage is speedily reached. (*P.* 258.)

It is now quite generally agreed by these authors, that the

alkalescence of the blood is reduced in gout; that the circulation is over-charged with urates at the beginning of and a few days prior to the attacks; that the urine contains an excess of urates at the height of an attack and as it is passing off; that the gouty subject excretes exogenous purins but poorly; that the accumulation in the system is chiefly owing to the retention, because of insufficient kidney elimination from disease of that organ; that the acute joint symptoms are probably due to variations in the reaction of the synovia (dealkalisation followed by hyperalkalisation) causing sudden dissolution of the previously inert crystalline formations; that the alkaline eliminative treatment is theoretically, rationally and experimentally indicated. I am pleased to state at this point that clinical experience enables me to heartily endorse these latter views of the subject. (*P.* 269.)

N.B.—The authors referred to above are: Chittenden, Futcher, Burmin, Pfeiffer, Aronsohn, von Noorden, Mendel, and others.

In Croftan's "Experiment IX.," a guinea pig received daily injections hypodermically of a 0·5 per cent. watery solution of xanthin for a period of seventy days. After four weeks, albumin was found in the urine. The animal was killed at the expiration of the seventieth day and the kidney parenchyma submitted to microscopic examinationl A granular degeneration of the epithelial cells lining the tubuli contorti and a proliferation of the endothelium of the intertubular capillaries were found. The picture corresponded in every way with the form of nephritis observed in the formative period of true gout. (*P.* 119.)

The richest single contribution in recent years to the subject of the ætiology of gout, or arthritis urica, is that of Prof. Lafayette B. Mendel, of Yale University, in an address delivered before the Harvey Society, at the New York Academy

of Medicine (*Cf. Journal American Medical Association, April,* 1906). *By means of his laboratory experimentation, in conjunction with that of Prof. Chittenden, it has been shown that after the ingestion of a purin meal* (*meat*), *a characteristic rise in the urinary excretion of uric acid in the healthy subject invariably occurs. The curve is especially well marked in those cases in which alcohol was ingested with the meal.*

In a gouty or rheumatic subject, however, it was observed that this postprandial curve was very much lessened; and, in some cases, did not appear at all. From these experiments it has been demonstrated by Prof. Mendel that the exogenous purins are excreted but poorly in cases of gout. The retention of uric acid is evidently a chief factor in the ætiology of this disorder. (*P.* 294.)

VI.—WEAKNESS OF THE POPULAR TREATMENT

Dr. A. Haig's Theory and Practice Criticised

By Eustace Miles

GENERALLY speaking, we may say that Dr. A. Haig assumes Uric Acid to be the sole cause of most physical troubles, or the main cause of them, and he treats Uric Acid foods and Purin Foods as the sole or main cause. And the patient is disappointed when there is no cure; and, in quite a vast number of cases, there is no cure at all! On p. 136 is a quotation which will show how forcibly and how dogmatically a believer in the Uric Acid theory can write, and how very severe would be the despair of the person who had adopted his methods of treatment, and (as in so many cases), had not been relieved as he expected.

And we may also allude to the quotations from the sadly unscientific advertisements of cures for Uric Acid troubles (see p. 127 and foll.).

Now for the details; though I must say that a great deal of the criticism has been cut out for want of space.

(1) *Uric acid is found sometimes in solution, sometimes in gluey, sometimes in crystalline forms.* This is granted.

(2) *Uric Acid comes, apart from other sources, from Meat-Extracts, Flesh-foods, Pulses, Tea and Coffee and Cocoa, Yolk of Egg, Mushroom and Asparagus, Oatmeal and Wholemeal, etc.* (*See the Appendix. See also No.* 4.)

Uric Acid is here confused with the Purins. All Uric Acid can be classed as Purin bodies, but all Purins cannot be classed as Uric Acid. There are very distinct differences, which will be made clear in Appendix I.

Thus tea contains Purins in the form of Theobromine, but Theobromine is not the same as Uric Acid. Tea also contains Tannin, which makes a decided difference to the effects of Tea when taken as a drink.

(3) *Other Sources of Uric Acid include an excess of Proteids.* (See also No. 5.)

A very interesting experience of Mr. C. H.

Collings may be quoted here. While living on a diet which did not produce any appreciable excess of Uric Acid, a diet very strict and very simple, he took at one time a very small portion of Claret at his evening meal. Now this Claret was a pleasant addition to the meal, but it did include a certain amount of over-acidity. After taking the Claret for a few weeks, Mr. Collings noticed a feeling of over-acidity, and, after giving up the Claret, he began to excrete Uric Acid. He discovered also that the Urine had been containing, not Uric Acid, but the acidity from the Claret. It therefore was clear that, though his solid diet was precisely the same as before—that is to say, a diet which did not produce excess of Uric Acid—yet, when a certain acid element was added, Nature had turned out that acid element, and it had not been able to turn out the ordinary, or what we may call the normal amount of Uric Acid. This had remained stored up. We cannot say, therefore, that it was an excess of Proteids or of any particular Uric Acid food which had been the cause of the trouble; it was the intrusion into the blood of something which prevented the excretion of Uric Acid. Dr. A. Haig does recognise

this fact to some extent, but not nearly fully enough.

Worse statements than Dr. A. Haig's are made by such extremists as Dr. Kellogg, who, writing of children's diseases, in his magazine, says that these are due to excess of Proteids. Any more ignorant statement it would be almost impossible to conceive. It shows that the doctor has not the least notion what the diet of most children is. Whatever mistakes the diet of most children may make, it does not make the mistake of excess of Proteids. And Dr. Josiah Oldfield has similarly attributed a large number of troubles to excess of Uric Acid or of Proteids. This is quite ridiculous, since Uric Acid foods, taken without certain other foods, do not produce the excess at all in the majority of cases.

There is no proof whatsoever that excess of Proteids, *per se*, does produce excess of Uric Acid. In fact, clinical experiments by Mr. Collings and others have proved that meat, which contains a great deal of Uric Acid and Purins, does not necessarily pass it out of the body as Uric Acid. That is to say, Uric Acid may be like gold bound up in boxes, and not free to circulate in the country through which it passes.

Dr. A. Haig absolutely ignores the effects of what we may call *the incompatibles*. Thus, for example, most fruit does not go well with most other foods. It may go well with nuts, but it is generally agreed that it does not go well with most cereals. It does not go well after meat; it does not go well with milk; and it does not go well after vegetables. Dr. Haig does not seem to allow adequately for those facts.

And, above all, Dr. Haig seems entirely unaware of any mischief resulting from excess of Carbohydrates (or starchy and sugary foods). He seems to forget that Carbohydrates are muscle-foods, to supply materials for the muscles' work! and he never deals with the problem of what happens in the case of any individual who takes muscle-food in excess of his muscle-work. In the case of an engine it is comparatively simple. If too much fuel is given, it is either burnt up, or it is not burnt up! but it is easily removed from the furnace. But, in the case of a human being, what happens when there is excess of Carbohydrates, or fuel food, either digested or undigested?

It is interesting to quote Dr. Francis Hare's

views, from his great work, "The Food Factor in Disease" (Vol. II.).

From the standpoint of practical medicine, preventive and curative, the most generalised conclusion to be drawn from a comprehensive survey of the theory of hyperpyræmia is, I think, that we cannot any longer afford to ignore the "stoking of the human engine." Seeing that the capacities of the individual for the physiological management of his fuel supply are widely variable, the intake of fuel will have to be graduated, more accurately than heretofore, to his capacities, not less than to his seeming necessities: it will have to be graduated to his capacity for digestion and absorption, to his capacity for regulating the income (perhaps here inversely in many cases), to his capacity for expenditure from the blood, whether by katabolism, anabolism, or direct loss. Only by such means can we hope to avert pathological forms of regulation or expenditure, or continued pathological accumulation: only so can we hope to maintain purely physiological carbonisation and purely physiological acarbonisation. We may nevertheless frequently modify or increase the physiological capacities of the individual: and this may often be the most expedient procedure. In that event, of course, the fuel intake may be modified or increased accordingly with advantage. (*Pp.* 393–394.)

We have seen that uricæmia is largely a matter of retention, and that such retention, commonly at least, depends upon hyperpyræmia or a tendency thereto. Further, in the majority of cases such uricæmia is a mere symptom and is not responsible for any immediate pathological result. Consequently, in the cases to which this applies, the treatment of the uricæmia will consist in the dispersion of the hyperpyræmia. But uricæmia depends also largely upon the introduction of foods rich in uric acid-forming material, more especially roe, sweet-

bread, meat, and extractives generally; and there are some affections, notably acute, subacute and chronic articular gout, uro-lithiasis of some kinds, and renal cirrhosis, in which uric acid is an essential pathological factor. In these affections, therefore, and in cases where these affections are to be anticipated, it is expedient to restrict, as far as may be, the ingestion of articles of food containing much uric acid-forming material.

But, in particular, gout at any rate, and probably in renal cirrhosis and some cases of uro-lithiasis, the uric-acid factor is fraught with pathological consequences probably only in the presence of hyperpyræmia. Hence it is mainly during the continuance of hyperpyræmia that abstinence from the above-named and similar food-stuffs is urgently demanded. I have already referred to a case in which a meat diet undoubtedly precipitated, and in all probability intensified, a paroxysm of acute articular gout which was impending when treatment was commenced. (*Case LIX.*)

The incident clearly demonstrates the danger of giving food-stuffs rich in acid-forming material, in the presence of existing hyperpyræmia. But the subsequent history of the case demonstrates that the continued ingestion of the same food-stuffs may *be free from danger when the arthritic paroxysm is over—that is, when the gouty pyrexial acarbonisation has dispersed the hyperpyræmia.* (*P.* 389.)

The idea that the amount of Proteid needed by the individual can be determined mathematically by his body-weight is more absurd, perhaps, than any idea which has been brought forward by so-called scientists in recent times. Authorities differ as to the amount needed, and they use extremely inadequate tests. Even the test

of the Urea, as Mr. Collings has pointed out to me in numerous cases, is fallacious, unless we consider also the specific gravity and other factors. It is so easy to make a calculation of the Urea without referring to various other excreta, etc., and to ignore the phenomenon of the storage of Urea. For example, Urea may be stored by the system while other poisons are being excreted.

Let me give a little personal experience to show how ridiculous it is to imagine that one can dictate to a person, directly one knows his or her body-weight, precisely the amount of Proteids needed.

N:B. Many arguments might be adduced, besides those which I have offered here. For instance:

(*a*) Mere body-weight is worthless as a criterion of the intake of Proteid, in view of the varying proportions of different tissues in persons of the same weight—e.g., the varying proportions of bone and fat and muscle. The needs of a bony, muscular, energetic person are *obviously* different from those of a fat, lethargic person of the same weight.

(*b*) The system needs a certain amount—no more, no less—of energy-supply.

(*c*) The system needs a certain amount of energy-supply for varying types of energy—muscular, mental, and psycho-nervous.

First of all, *most people who have experimented along sensible lines have found that by degrees*

they need less and less Proteid. It does not mean that they are going down in body-weight, but that probably more Proteid is assimilated, and that the system, being cleaner, can do with a smaller amount of Proteid. Our employees in our establishment—at least those who live sensibly—find that, as they go on with the diet, they become healthier and healthier with a smaller amount of Proteid.

Among other reasons, the digestive juices are better trained to assimilate the Proteid, and there is less friction, and therefore less need of food.

My personal experience, and the experience of hundreds of my Health-pupils, have proved that different classes of Proteids suit different people. That is to say, a person who might not be satisfied with one ounce of Proteid at a meal from one source, might be quite satisfied and sustained by half an ounce of Proteid from another source which suits him better. Therefore the source of the Proteid, the particular food from which the individual draws his Proteid, must be considered.

And it has been noticed that different people are suited by different sources of Proteids at

different times in their lives. Thus, one man may like at first to get his Proteids mainly through cheese, as well as other foods like our "Emprote." Afterwards the cheese sources of Proteids may be quite unsatisfactory, and he may get his Proteids chiefly from the whites of eggs, and from "Emprote." Later on, these sources of Proteids may be unsatisfactory, and he may rely mainly on nuts.

Another factor is the amount of Carbohydrates, or starchy and sugary foods, and Hydrocarbons, or oils and fats. Dr. Robert Hutchison's theory is that Proteids can serve as fuel-foods. It must be remembered also that oil can serve as a lubricator. If no Proteid is required as a fuel-food, then less Proteid may be needed for body-building purposes. That is to say, the person who takes very little else except some Proteid-food and water, and perhaps some natural "salts," may require more Proteids than if he had had a fair amount of Carbohydrates or Hydrocarbons, or both.

And the function of Oil in lubricating the body must also be considered. The more lubrication there is, up to a certain point, the less friction there is.

There are the natural " salts " to be considered. It is not simply a matter of how much Proteid is taken; it is a matter of how much Proteid is digested and metabolised. Now what is it that aids the digestion of Proteids? There is no doubt whatever that a fine trituration of Calcium Phosphate, and a mild dose of Soda Phosphate, may both help the digestion of Proteid. Therefore these " salts " must be always taken into account. If we have something which will help us to digest and metabolise the Proteids more thoroughly, then obviously we need less Proteid.

Above all, there is the question of the friction that comes through clogging. The example of machinery is the most obvious one. Machinery which is clogged with dust and dirt and grit requires more fuel and more energy to move it than machinery that is perfectly clean. We cannot say that a certain piece of machinery will require a certain amount of fuel; it is quite possible for that machinery to be so clogged that it will require twice as much fuel; it is quite possible for that machinery to be so clear and clean and well lubricated that it will require half that amount of fuel.

Then there is the matter of mastication. Mr. Horace Fletcher and Professor Irving Fisher, and thousands of their disciples, have proved beyond a shadow of doubt that, at any rate for years, if not permanently, many people can do with between half and one-third of the amount of Proteid hitherto considered to be absolutely necessary for the maintenance of life.

Then there is the state of the mind, for which Dr. A. Haig makes scarcely any allowance whatsoever. If the mind is in a certain state, the body will perhaps digest the whole of the food, or practically the whole of the food, that is put into it. If the mind is in a certain other state, it may fail to digest the food, and may even turn that food into poison.

Of course, there is also the work done, and the way in which the work is done.

Dr. A. Haig generally leaves out of the question the fact that the making of Uric Acid is distinct from the storing up of Uric Acid. A person may make a lot of Acid and get rid of it; in that case it does not matter very much. The danger comes when the person begins *storing* it. As Mr. Collings says, there are three things to be considered: How Uric Acid is formed;

how it is stored; and how it is excreted. Dr. A. Haig does not differentiate these three things adequately.

(4) *In proportion as you eat or drink the Purin food* (see 2 and 3), *you ingest precisely so much Uric Acid into your system, according to the amount of Uric Acid which is in each of these foods by chemical analysis. You will have to get rid of this extra Uric Acid, or else retain it as Uric Acid at a great disadvantage to your system.*

Now this ignores the difference between Uric Acid and Purins.

In my own case, for instance, I can take with comparative impunity a certain amount of Pulses, such as beans and lentils, and a certain amount of peas, and a certain amount of tea; whereas I cannot take meat nor coffee with impunity. I do not believe that the main cause of the difference is Uric Acid or Purins *per se*. I believe that other factors come in.

Dr. A. Haig's idea includes, also, this: that Uric Acid in the body—that is to say, Uric Acid as something which will injure the body—is in proportion to the amount ingested. So we

may refer once again to the case of gold imported into a country in iron-bound chests. This does not mean that the gold enriches or curses the country, unless the contents of the chests are distributed. If the chests go out a few hours afterwards with the gold within them, they do not affect the country appreciably.

Nor does Dr. A. Haig take into account the foods eaten at the same time. For example, the eating of a certain amount of alkaline vegetables, such as conservatively cooked lettuce, spinach, etc., may make a very great difference to the amount of Uric Acid stored up in the body.

Nor does he take into account the fluids. Thus, if people took hot distilled water, with a certain solution of Soda Phosphate in it, first thing in the morning and an hour before at least one meal, and if they had the right pure Vegetable Juices last thing at night, it is ridiculous to say that the amount of excessive Uric Acid within them will depend entirely upon the amount of Purin food or excessive Proteid food ingested.

Again, he ignores complete mastication. It does not seem to enter into his calculations at all as a factor decidedly influencing Uric Acid storage.

For he ignores the strength of the saliva, which is, in its nature, alkaline.

He ignores also other protective juices, or elements in the juices. There are the protective juices, not only of the mouth, but also of the stomach, the liver, the pancreas, and perhaps the intestines.

And, again, he ignores the state of mind. It is absurd to suppose that the foods which are eaten are the sole factor, quite apart from the state of mind in which one eats the foods. Thus, a certain set of foods may be rendered practically harmless if we eat them in a certain state of mind; whereas otherwise excellent foods may even be rendered harmful if we eat them in another state of mind.

Once again, there are the incompatibles, or mutually antagonistic foods—especially the foods taken at the same meal. It will make all the difference, to the effects of the flesh-foods, whether we have them by themselves, perhaps with hot water, or whether we have them, as in the orthodox meal, in combination with a quantity of bread, potatoes and green vegetables infamously cooked, and puddings, and other extras.

Then there is the effect of the skin in relieving the body of other acids—this is a most important point—and keeping the excretion clear so that it may get rid of Uric Acid. Dr. A. Haig generally ignores this factor. First, if the skin is the means of excreting certain poisons, then, though it may not excrete *Uric Acid* in any appreciable quantity, yet it may free the blood-stream and the urine from the necessity of excreting these poisons, and thus may render them better able to excrete Uric Acid.

Nor does Dr. A. Haig take into due account the process of oxygenisation. Many would consider this quite the most serious omission in his book.

Dr. A. Haig ignores individuality, and especially individual immunity. Immunity is a matter to be taken into account throughout, whether we are dealing with economical or social or physical or pathological or other problems. "What is one man's meat is another man's poison." "What is one man's poison may be another man's meat." It is so with alcohol. The terrible curses which (we are told by the extremists) follow inevitably as the result of the taking of even a minute amount of alcohol, are not de-

monstrable in the case of quite a large number of individuals. We may safely say that there are hundreds of people who have, in this respect, an individual immunity.

Dr. A. Haig also ignores the opposite—namely, individual over-susceptibility; which, once again, we may call a positive genius for creating Uric Acid out of even non-Uric Acid or non-Purin foods.

(5) (*a*) *Cold tends to make you retain Uric Acid, and the retention of a certain amount of Uric Acid is equivalent to the ingestion of that amount.*

This is a very good point. Dr. G. A. Gilbert's words may be quoted here :—

The things in Nature which act as precipitants (cold and acids) serve to lessen the blood's alkalescence and cause the precipitation of urates, resulting in rheumatic symptoms; while, on the other hand, those that act as solvents (heat and alkalies) serve to increase the blood's alkalescence and cause the resorption of urates from the issues, relieving the rheumatic symptoms and producing those of the uricacidæmic type, unless the urates are removed from the circulation by way of the excretory organs. ("*Uric Acid,*" *p.* 225.)

Under this class of "incidental ætiological factors," we may mention here two or three of those which are thought to be the most common, and with which it would be well for the physician to make his "purin excess" patients thoroughly acquainted; to wit: (1) *Exposure of a part or of the entire*

surface of the body to cold, or to cold and dampness combined ; (2) *Violent or unusual muscular efforts ;* (3) *Holding the body, or one of its members, in a constrained or awkward position or attitude for some time, causing pressure upon the veins at some point, thus serving to prevent the return venous flow below, which is likely to result in capillary stasis or obstruction, and uratic deposition—as when sitting in the well-known " cross-legged " position.* (P. 249.)

But crisp and dry cold may help the burning up of the Carbohydrates. Dr. A. Haig's idea is all very well if we assume that Uric Acid is the only mischief. But it is not the only mischief. It is very important in certain cases that there should be a burning up of excessive fuel. Cold is not an unmitigated evil.

Dr. C. Stirling Saunder, L.R.C.P., says that if there is deficiency of Sulphate of Potash, as in certain cases of Asthma, Cholera, Albuminuria, Indigestion, Rheumatism, Neuralgia, Dandruff, Eczema, etc., then the cold out-door air and dry weather may help much more than stuffy rooms and hot weather.

Dr. A. Haig, by the way, implies that deficiency of Sulphate of Potash does not matter. What if deficiency of Sulphate of Potash, never mind what it is due to, is one of the chief causes of the trouble, and not excess of Uric Acid ?

Also, in certain cases, there is need of Phosphate of Iron. Dr. A. Haig ignores this factor in the body.

(5) (*b*) *The taking of certain acids, such as acid fruits, tends to make you retain Uric Acid.*

Granted. This is a good point; but it applies to the retention of other acids besides Uric Acid. Here also we may note that the taking of a certain amount of fruit may create a very valuable stimulant for the system, and for the digestion in particular.

It is not entirely owing to what are popularly known as the acids of fruits, but perhaps also owing to the ferments. Thus apples contain (as Mr. Collings has reminded me) certain ferments which may help the digestion of certain foods.

We need not ignore the long list of "fruit cures" by fruit juices or by fruits taken alone. It is one thing to take fruits by themselves, as a sort of special fasting cure. It is another thing to add fruits to an already over-acid meal.

(6) *Warmth tends to make you get rid of Uric Acid.*

This is granted. But warmth is bad in many cases if it involves foul air.

(7) *Certain drugs, such as Salicylate of Soda, in heavy doses, tend to make you get rid of Uric Acid.*

By inference, any other effects of such drugs may be ignored.

Here one may refer to what Dr. A. Haig says in regard to Soda Phosphate. This is a quotation from his book:

"*Phosphate of soda, the ordinary* $Na_2 HPO_4$, *is a good solvent of uric acid, and causes a plus excretion, but, unlike the salicylates, it can only act in an alkaline medium, or while the supply of alkalies is abundant; the presence of any acid, or even of a salt of a mineral acid* (*as a sulphate*) *appears to convert it into the acid phosphate* $Na\ H_2\ PO_4$, *and then there is no longer a plus excretion of urie acid.*

"*The practical point to remember, then, is that phosphate of soda should be given with alkalies, or in conditions when the supply of alkalies in the blood and tissue-fluids is good, and it will then cause a satisfactory plus excretion of uric acid, as in headache, high tension pulse, and mental*

depression, when the alkalinity is high. (*P.* 44 *of the fifth edition of "Uric Acid."*)

Mr. C. H. Collings makes the following criticism of Dr. A. Haig's inference that Soda Phosphate is practically useless in cases of gout, etc., because it does not help one to excrete Uric Acid. He points out that Soda Phosphate, taken in the right way, softens tap water; supplies soda as a base, and also supplies Phosphoric Acid; acts as a catalyst and stimulates the liver; eases the system of CO_2, and is excreted as the acid salt, which acid salt, thus formed, serves as a solvent for calcium oxalate.

Besides, Soda Phosphate may indirectly help the excretion of Uric Acid by helping the excretion of other acids whose presence in the system has been "hanging up" the excretion of Uric Acid. Dr. A. Haig does not in the least appear to understand the principle of what Mr. Collings calls "selective excretion."

It is perfectly clear that the requisites of drugs include the following:

Drugs must be needed by the individual case for special purposes.

Drugs must do their work. It is of no use to assume that the drugs will do their work because

they contain something which the system needs. We demand positive clinical proof that they do have the result which they are supposed to have.

Let us assume, for a moment, that heavy doses of certain drugs are good—though we do not admit this at all.

Yet other drugs may be useful, though they have no effect on the excretion of Uric Acid. That is to say, they may be useful for the excretion of some other acid.

The after-effects of certain drugs are most important. We may take Aspirin, which belongs to the Salicylate group. We might suppose that it had a very good effect in certain Uric Acid cases. But what does clinical research show? Mr. Collings has been able to prove that Aspirin may remain stored in the system—that is to say, probably in the muscular tissues—for quite a long while, and that, when it does come out, it may require much of the urine to carry it out. So that this urine cannot simultaneously carry out other poisons as well. Such other poisons will, therefore, remain stored in the tissues, to the harm of the body.

There is need of far more prolonged experi-

ment before we can endorse Dr. A. Haig's view. And the quotation from Dixon Mann will put the point beyond all doubt. And Gilbert's book gives information that is equally to the point.

Dixon Mann writes as follows :—

The influence of drugs on the excretion of uric acid is very uncertain.

It was formerly supposed that the administration of alkalies materially aided its excretion, lithium salts being regarded as especially potent solvents and eliminators, but the results of experimental research are opposed to this supposition.

He found that sodium bicarbonate exercises no material influence, and that lithium carbonate appears to diminish the excretion.

Haig has shown that the administration of sodium salicylate causes an increase in the amount of the uric acid in the urine, an observation that has been corroborated by Magnus-Levy, who found that it doubled the output, and by other observers. Behland, whilst agreeing that sodium salicylate increases the urinary uric acid, found that it also greatly increases the number of leucocytes in the blood; and as, according to Horbaczewski's theory, hyperleucocytosis increases the output of uric acid, the increased excretion caused by sodium salicylate is the result

of over-production, and not of the elimination of that which has been retained in the tissues. Schreiber and Zaudy found, on administering to a man 3 grms. of sodium salicylate daily for five consecutive days, that the amount of uric acid was increased on the first day, but that it fell on the second day and during the remaining three days, when it came down to the same level as before the drug was taken. This they attribute to an acquired indifference of the system to the action of salicylate, which in the first instance produced leucocytosis. After the administration of 10 grms. of sodium salicylate in three days, Ulrici found that the Uric acid excretion was increased 50 per cent., but he does not believe that the increase is due to leucocytosis. Magnus-Levy considers that the increased amount of uric acid in the urine (1 to 1·25 grms.) after the administration of sodium salicylate is too great to be accounted for by the theory of hyperleucocytosis; he is supposed to attribute it to diminished oxidation of uric acid, which, under other conditions, would be further dealt with in the organism. Walker Hall found that salicylate caused an immediate increase in the excretion of uric acid, even in vegetarians who had not eaten meat for many years.

Even drugs which have a distinct solvent action on uric acid in vitro, *such as piperazin, either diminish its excretion or act negatively* (*Grawitz*).

Urotropine has a slight solvent action on uric acid in vitro, *but its effect as an excretory adjunct is very doubtful. Nicolaier is unable to advance any reliable evidence in its favour, and His found that in gout, it seemed on some occasions to increase and on others to diminish the output of uric acid* (*p.* 174).

From Dixon Mann, in "Physiology and Pathology of the Urine."

Dr. G. A. Gilbert makes some interesting remarks on Drugs in general and Salicylates and Lithia in particular.

EFFECTS OF SALICYLATES.—In rheumatism proper, especially articular rheumatism, the salicylic acid preparations have been used most extensively in recent years. It has been shown by laboratory experiment, as well as by clinical investigation, that the initial doses of salicylic acid increase the excretion of urates. This increased urinary excretion is attributed by different authors to different causes. In the opinion of Weidner, Levison and others, the acid simply increases the number of leucocytes, the increased excretion of urates being the result of the increased leucocytosis. Haig, and others believe, on the contrary, that the drug acts like the alkalies, and "flushes out" the uric acid. The question is still a moot one.

Whatever the precise nature of this observed action on the part of the salicylates, we know that the urgent symptoms of articular rheumatism are ameliorated by thus increasing temporarily the excretion of urates. In cases of this description, where treatment is only given for a few hours to relieve acute manifestations, the therapeutic effect of the salicylates is usually satisfactory. But if more prolonged medication is indicated, this remedy will prove a failure. Its deleterious action on the stomach, and, later, on the kidneys, tends to prevent the free elimination of urates, and its continued administration proves harmful.

In cases of so-called "muscular rheumatism," chronic arthritis, sciatica, lumbago, etc., the transient effect of the salicylates, in increasing uratic excretion, falls short of the true therapeutic requirements. Not only is it necessary in these instances to neutralise acidosis and effect the resorption and removal of the local deposits by more prolonged treatment; but, like the cases of bronchial asthma, hay fever, etc., already described, it is essential that some effective means be taken to ensure oxidation of purin waste and prevent further accumulation, by stimulating and aiding the function of liver, kidneys and bowels. (*P.* 263.)

Unfortunately, in practical therapeutics, it is very difficult to ensure the absorption of a sufficient quantity of the given alkali to produce the above effects. For example, four hundred grains of the bicarbonate salt, given daily, have been found necessary to hold the urine constantly at the alkaline point of reaction to litmus; consequently, in the pharmaceutical form in which these alkalies are usually presented to us (tablets, effervescent salts, mineral waters, etc.), it is impracticable to administer them in adequate dosage. As ordinarily prescribed, not enough of the alkali becomes absorbed to produce but the most evanescent effects—certainly not enough to ensure the solution of gouty concretions.

In the chemical combination in which the sodium salt is commonly administered, the greater portion passes through the intestinal canal and is expelled with the egesta in the form of sodium hydrogen sulphide, thus serving as a laxative. The phosphate of sodium is most frequently utilised for this purpose. If the alkali be given singly, therefore, in simple molecular combination (as a base with an acid), little effect is observed, so far as increasing the excretion of urates is concerned. In fact, most of the absorbable portion is oxided in the body to carbonate, which eventually adds to the crystallisation of sodium acid urate.

A similar effect is said to take place when a potassium or lithium salt is given singly, in the chemical combination of acid and base (though to a lesser extent in the case of lithium); they are transformed to carbonates after absorption, and though at first a slight increase of uric acid excretion is observed, a decrease is afterwards shown; but this, in some instances, is probably due to the fact that the original retention was slight, and the excess within the system has been eliminated. (*P.* 270.)

"It is possible, moreover," as one writer suggests, "that in introducing quinic acid, its equivalent alkaloid, or one of its salts, into the stomach, we are gratuitously furnishing the system with an extra amount of purin material to be metabolised and eliminated at some future time, since it is known that the small amount of vegetable purins ingested as food is contained in the bark, rind and peel. Like other vegetable alkaloids or extractives (e.g., *as the xanthins and tannin of tea and coffee*) *quinic acid may tend to sub-alkalise the blood and tissue-juices and cause a precipitation of urates in the various connective tissues of the body, thus causing their disappearance temporarily from the urine, only to reappear in added amount when the normal blood reaction is restored."* (*P.* 276.)

"Lithia, then, relieves arthritis by clearing the blood of uric acid, but not, as was supposed, by eliminating

uric acid from the body. We now see that it clears the blood, but retains uric acid in the body." (*"Uric Acid as a Factor in the Causation of Disease," Fifth Edition, p.* 58.)

Relieves arthritis, *by driving uric acid out of the blood into the tissues! He here stultifies himself and contradicts his main theory, which appears repeatedly throughout this same work. His chief contention is, and has always been, that any drug, which clears the blood of uric acid by driving it into the tissues,* causes *arthritis. In this, he is doubtless correct. It would appear, that in order to bolster his unimportant notion regarding the therapeutic action of lithia, he flatly contradicts himself. It is largely owing to these chemical idiosyncrasies, which he has allowed to creep into his work, that Haig's reputation as a scientist has been made to suffer from the unfriendly pens of numerous writers.* (*P.* 223.)

Gilbert advises Lithia, but he assumes, as Dr. A. Haig does, that every case of certain troubles is a case of Uric Acid troubles. What if it is not a Uric Acid case, and has symptoms which might have been produced by Uric Acid, but *were* produced by Lactic over-acidity, or by Carbohydrate over-acidity? What happens to the Lithia in that case, if there is no Uric Acid for it to dissolve? I have never seen this question tackled by medical men.

Now we come to what is, perhaps, the most important point of all.

(8) *Whenever there are certain gouty and rheu-*

matic troubles (*see Dr. A. Haig's list, p.* 62) *Uric Acid exists in the body in large quantities, and is a powerful poison in every case.*

Other acids and poisons and toxins and crystals do exist in the body besides Uric Acid, and they do have bad effects.

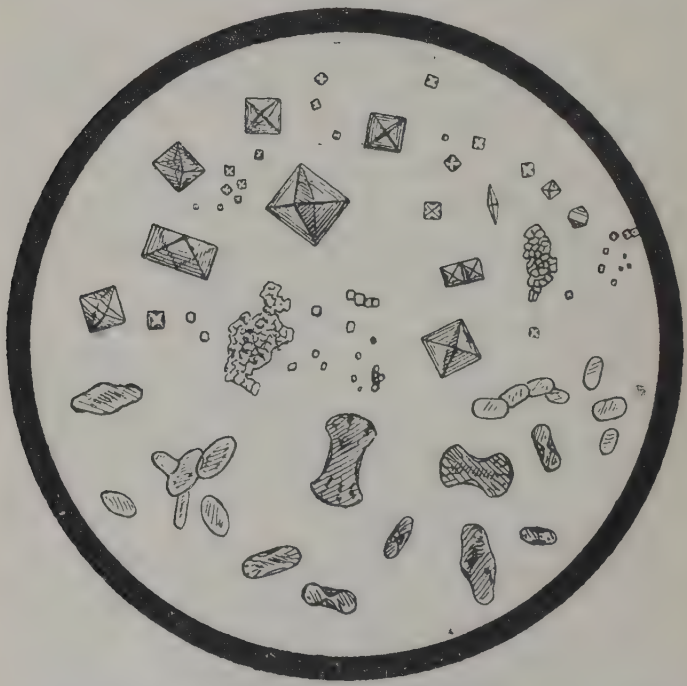
As to these other acids, some of them are practically unconnected with Purin foods and their causes ; and some of them are present sometimes when there is no Uric Acid in excess.

Mr. Collings and myself have had four such cases out of six in a single day : cases including swollen joints, gouty pains, headaches, and so forth. We have found Uric Acid to be not at all an important factor—if, indeed, it can be called *a* factor—in such cases.

We have not yet found a single case in which Uric Acid is the sole factor. Very rarely have we found a case in which it was even the most important factor, as compared, e.g., with the Carbohydrate over-acidity. We have not found that it is the most dangerous factor, as contrasted with the ethereal sulphates or the retention of urea ; we have not found that it is the hardest to cure, as contrasted with Carbohydrate over-acidity.

For there are five bases at least which can

help to eliminate Uric Acid—that is to say, which can combine with Uric Acid and form a soluble



Typical crystals of Oxalate of Lime as found in Urine Sediments. Drawn from the Microscope. Above are shewn the characteristic envelope-shaped form; below, the less common colloidal kind. Beginnings of calculi (stone) are shewn in the two clumps of small crystals.

Original drawing specially made for the book on "The Uric Acid Fetish."

"salt." For example, there is Soda, there is Potash, and there is Ammonia.

Then Uric Acid is soluble in weak alkaline solutions, etc. (See Appendix I, and Mr. Collings' part of the present work.)

Typical crystals of Uric Acid as found in Urine Sediments. Drawn from the Microscope. The majority are more or less colloidal, and pigmented from light yellow to deep orange, respectively.

Original drawing specially made for the book on "The Uric Acid Fetish."

In one case in particular, which was a combination of various kinds of over-acidity, the Uric

Acid over-acidity disappeared in a few weeks. Carbohydrate over-acidity, however, persisted for several years beyond, in spite of the strictest diet.

The problem set by such a case is unsolved by the Uric Acid theory. Why was it, for instance, that the person continued to suffer, though there was no excess of Uric Acid apparent from the tests in the blood or the urine? Evidently the cause was not excess of Uric Acid.

Uric Acid, when retained, need not necessarily be dangerous. There is no urgent need to deport Uric Acid. Nature can tolerate it, knowing that at any time she can use certain bases to combine with it.

Uric Acid, it is true, affects the sensory nerves and appeals to our feelings. We are aware of its excess. We feel a pain, or headache, or something of the kind which calls our attention to it. But this does not prove that it is dangerous.

Far more dangerous are the Chromogens. For instance, as Mr. Collings has proved in many cases, there is a blue-green Chromogen, which causes great discomfort. The Chromogens, for the most part, are almost unrecognised by the medical profession. They are due to certain not easily

proved causes, but there they are; and, when they are circulating, they cause great unpleasantness.

Think of Oxalic Acid, as an acid absolutely and entirely distinct from Uric Acid, so far as one can see. It is true that a ridiculous little experiment, made some thirty years ago, is still quoted, to the effect that Oxalic Acid is caused by Uric Acid; but no scientist would maintain this to-day. Oxalic Acid is a very deadly poison. In our opinion it is far more deadly than Uric Acid.

The causes of Oxalic Acid excess are not agreed upon. Generally, Oxalic Acid is attributed to the use of tomato and rhubarb, etc. But signs of Oxalic Acid are found, and so are Calcium Oxalate Crystals, in certain cases where tomatoes and rhubarb, etc., have formed no part in the diet at all. We need not enter into the question of its causes, but we can simply say that it is a deadly poison: a poison so deadly that nature gives some of her best efforts, her most immediate efforts, to neutralising it by means of lime. The combination of the Oxalic Acid and Calcium will form Calcium Oxalate Crystals, Calcium being the base that counteracts Oxalic Acid. They are utterly different from Uric Acid Crystals (see

pp. 106 and 107). It is only necessary to make this statement; no proof is needed for any one who knows anything whatsoever with regard to clinical analysis.

To show the importance of these Calcium Oxalate Crystals, I may quote a case of a most striking character. A man consulted me for certain troubles, which need not be specified here. Suffice it to say that at the end of a few months he was entirely free from them. He told me at the outset that he was reluctant to give up flesh-foods altogether, but that he considered the trouble to be chiefly mental. I told him I thought it was a case of another kind of over-acidity, not the Uric Acid; and I put him on to a rather strict diet. On the Purin-free diet he would not have been cured at all, since the crystals which showed in the examination were not Uric Acid crystals at all. There was no appreciable Uric Acid excess. It was entirely a different kind of case, due largely to the presence of crystals of Calcium Oxalate.

There was another case—namely, of Rheumatoid Arthritis—cured without the giving up of Purin foods.

Another was a case of a stone in the kidney.

The man had in vain asked his doctor, and the surgeon who had removed the stone from his kidney, what was the cause of the Calcium Oxalate stone in the kidney. They had been unable to tell him, so he came to us in despair. And we pointed out to him what the causes were, and we set him on the right lines, and there has been no recurrence of the mischief. These cases were all treated almost absolutely without reference to Purins in the food.

Then there is Lactic Acid, which may partly come from excess of curdled or sour milk.

Then there is Butyric Acid, best known perhaps in the form of β-oxy-butyric Acid, in cases of Diabetes. Butyric Acid is partly caused by excess of butter, but, of course, not entirely so.

Then there is Urea, of which the storage may be a very deadly feature. It may produce Coma and Death. It is a more important matter than Uric Acid, and, so far as quantities are concerned, Urea is, of course, far larger in quantity than Uric Acid. Generally speaking, Uræmia is recognised as a mischief. It is not necessarily connected in any way with the Uric Acid excess.

Then there may be Sulphuric Acid in excess.

Then there may be Ammonia Salts in excess.

Then there may be other acids, besides, in excess.

Above all, there may be the Chromogens, which belong to the Ethereal Sulphate group. There are several of these, identified and discussed in the text-books ; and still others with which we are personally familiar, the descriptions of which have not yet been published. The first-named originate in the intestines, as a consequence of normal fermentative and putrefactive processes, often carried, however, into the domain of the pathological. From the intestines they are absorbed into the system, and, according to Mr. Collings' theory, interfere generally with the metabolism of the type of food-group from which they were originally derived. They are readily retained in the tissues, and are often directly responsible for mental depression, and a whole series of strange and extremely distressing subjective disturbances and disorders—generally described, by the unfortunate victims, as "dreadful *sensations*, worse than any pain."

Then there are the Ptomaines (from animal and other foods), which have no connection whatsoever with Uric Acid. Bouchard has isolated

certain Ptomaines and proved how poisonous they are, in the same way that Auberon Herbert has proved that in the air there are certain poisons quite distinct from the excess of Carbonic Acid.

Then there is Carbonic Acid itself, and these subtle poisons from the air.

Then there are the germs and microbes and their excreta—which are too big a question to discuss here.

Then there are the poisons from bad water.

Then there are the mental poisons. A quotation from Ralph Waldo Trine, and another from Dr. Schofield, will emphasise the importance of these poisons, even if we consider these statements to be exaggerated.

Says a noted American author, an able graduate of one of our greatest medical schools, and one who has studied deeply into the forces that build the body and the forces that tear it down: "The mind is the natural protector of the body. . . . Every thought tends to reproduce itself, and ghastly mental pictures—of disease, sensuality, and vice of all sorts produce scrofola and leprosy in the soul, which reproduces them in the body. Anger changes the chemical properties of the saliva to a poison dangerous to life. It is well known that sudden and violent emotions not only weakened the heart in a few hours, but have caused death and insanity. It has been discovered by scientists that there is a chemical difference between that sudden cold exudation of a person under a deep sense of guilt and the ordinary perspiration; and the state

of the mind can sometimes be determined by chemical analysis of the perspiration of a criminal, which, when brought into contact with selenic acid, produces a distinctive pink colour. It is well known that fear has killed thousands of victims; while, on the other hand, courage is a great invigorator.

" Anger in the mother may poison a nursing child. Rarey, the celebrated horse-tamer, said that an angry word would sometimes raise the pulse of a horse ten beats in a minute. If this is true of a beast, what can we say of its power upon human beings, especially upon a child? Strong mental emotion often causes vomiting. Extreme anger or fright may produce jaundice. A violent paroxysm of rage has caused apoplexy and death. Indeed, in more than one instance, a single night of mental agony has wrecked a life. Grief, long-standing jealousy, constant care and corroding anxiety sometimes tend to develop insanity. Sick thoughts and discordant moods are the natural atmosphere of disease, and crime is engendered and thrives in the miasma of the mind.

" From all this we get the great fact we are scientifically demonstrating to-day—that the various mental states, emotions and passions have their various peculiar effects upon the body, and each induces in turn, if indulged in to any great extent, its own peculiar forms of disease, and these in time become chronic.

" Just a word or two in regard to their mode of operation. If a person is dominated for a moment by, say a passion of anger, there is set up in the physical organism what we might justly term a bodily thunderstorm, which has the effect of souring, or rather of corroding, the normal, healthy, and life-giving secretions of the body, so that instead of performing their natural functions they become poisonous and destructive. And if this goes on to any great extent, by virtue of their cumulative influences, they give rise to a particular form of disease, which in turn becomes chronic. So the emotion

opposite to this, that of kindliness, love, benevolence, good-will, tends to stimulate a healthy, purifying, and life-giving flow of all the bodily secretions. All the channels of the body seem free and open; the life forces go bounding through them. And these very forces, set into a bounding activity, will in time counteract the poisonous and disease-giving effects of their opposites." (From "In Tune with the Infinite.")

"It has been proved by Mosso that emotions produce a spasmodic contraction of the arterioles. 'Strong and repeated emotions,' says Huchard, 'can induce cardiac affections by their strong action on the peripheral circulation. Hence arterio-sclerosis is so common amongst doctors, politicians, and financiers.' The emotion of anger has been specially investigated with reference to arterial pressure. It is found capable of increasing the pressure of blood from 14 to 21 cub. m. in men, and the blood corpuscles from 3 to 4½ millions per m.m. The connection of fear with the circulation is well known. Not only is the skin blanched, but the pulse often becomes irregular. 'Am I afraid?' said Louis XVI. once in a crisis in the Revolution; 'feel my pulse.'

"John Hunter says: 'An exciting cause of angina pectoris has long been known to be emotional excitement.'

"Dr. Lys speaks of both apoplexy and anæmic bruits occurring during mental anxiety, being caused by arterial tension, also of many cases of atheroma where no cause is known but some mental disorder. Also of cardiac dilatation in young people which may be due to palpitation from the increased vascular tension of mental origin.

"Dr. Stephen Mackenzie gives three striking cases of pernicious anæmia caused by mental shock.

"Turning to the lungs and breathing, asthma and various forms of dyspnœa, coughs, and hiccoughs are largely influenced by mind. Sir Henry Holland says: 'I have known

asthmatic patients in whom attacks are brought on by seeing them in others.'

" Hœmorrhage from the lungs has been frequently traced to mental causes.

" The digestive organs, including the liver, are, as is well known, greatly affected by the mind, and woe betide the practitioner who fails to remember this in some obscure case of dyspepsia or mal-assimilation. Anorexia, nausea, dyspepsia, flatulence, gastralgia, constipation, and diarrhœa are all often either caused or largely affected by the mental factor.

" Jaundice from mental emotion is recorded by Sir S. Wilks; jaundice from anxiety specially by Dr. Churton. Jaundice has also been caused by fits of anger and fear. A medical student had an attack brought on by a severe examination.

" Dyspepsia, indeed, of all diseases, is the most easily produced by the mind. Dr. Clouston observes with regard to dyspepsia: ' The mental attitude of the physician is often changed somehow, when he is treating his patient's indigestion and constipation, as compared with that with which he considers and treats the mental pain that accompanied and perhaps caused the indigestion. The indigestion took its real origin, it may be, in a disturbance of the action of the mind and brain cortex, but the stomach only is thought of or treated by peptones, acids, or laxatives, and this is called " scientific" treatment. We do not need to hypnotise a patient to show that the mental centres in the cortex have the power of directly influencing physiological function and tissue nutrition. In mental disease, which means cortical disease, every one of these functions is commonly enough affected. The dry skin, the foul tongue, the constipation and mal-assimilation, or certain melancholics, the greasy, odorous perspiration, the phosphatic urine, and the constant flow of speech of many maniacal cases, are everyday examples.

" Vomiting is not only excited by injuries to the brain, apart from disorders of the stomach, but by the mind alone. A house surgeon of Dr. Durand gave a hundred patients coloured water, and told them it was a strong emetic given in mistake. Eighty of them were violently sick in consequence." (*From " The Force of Mind."*)

Then there are the drugs. Think how long Mercury may be retained within the body, and Aspirin, and Quinine. Few researches have been made of an exhaustive character in order to ascertain for how many years drugs may be retained within the system.

Then there is tobacco, of which the poisons include not only Nicotine, but also Ammonia.

Then there are the Alcoholic drinks, which have their effects, not merely through the over-acidity and the Alcohol, but through other factors also.

Then there are the Preservatives in foods. I remember one little experience of my own. One time, before the final of the Amateur Tennis Championship, I drank a good deal of milk. In my big match I was beaten, and I felt quite weak. I could not make out why this was; but, when I came home, I looked at the cup in which the milk that I had been drinking had been kept, and I found at the bottom quite a

thick pink sediment. I believe this would account for my otherwise unexplained feebleness. On another occasion I had a very queer feeling of cramp and stiffness in my face, a feeling of the face being drawn, as it were; and I could only attribute this to some Formaldehyde, which had been added as a preservative to the cream, of which I had taken nearly a quarter of a pint, together with some biscuits, which latter I knew to be pure and wholesome.

Then there are the more subtle acids. We cannot find any book which gives us an adequate account of them, but there are certain acids from Oatmeal, which affect unfavourably some people who live a sedentary life.

Then there are the Fibrous and Cellulose irritants. Coarse wholemeal bread, for example, may produce great mischief. In fact, in quite a number of cases, Mr. Collings has reported to me that the coarseness of wholemeal bread has produced fermentation, irritation (as proved by mucus), and undigested gluten.

Then there is the comparatively rare excess of the alkaline elements.

Generally there is tissue-storage, even when there is no noticeable excess of Uric Acid. In

fact, the system may be comparatively free from excess of Uric Acid, as an important factor, at any rate, but may be labouring under an excess of tissue-stored poisons of various sorts.

Then there is the deficiency of Oil, which deficiency probably is more serious in hot weather than in cold.

Then there is the deficiency of "bases," not used up solely and entirely by Uric Acid. For instance, the deficiency of Calcium. Probably the Calcium element, however much Calcium there may be in the system as a whole, and in the joints in particular, is deficient in the blood of at least nine civilised people out of every ten.

Then there is the result of fermentation, which is specially common on the wrong diet, whether free from Uric Acid and Purins, or not. There are the results of flatulence. No illustration is needed here. Most readers can recall their own experiences.

Above all, there is the effect of Carbohydrate over-acidity, or excess of starchy and sugary foods, which Dr. Francis Hare calls Hyper-pyræmia. Years ago a certain Dr. Densmore wrote a book of a very extreme kind, rather

on the lines of Dr. Salisbury, inveighing against the Carbohydrate foods. There was a great deal of truth in his contention that many troubles were due to excess of Carbohydrate food beyond the body's powers of assimilation and use. And Dr. Francis Hare in more recent years has written to the same effect, combining to a certain extent the theory of excess of Uric Acid with the theory of excess of Carbohydrates. His book is well worth studying—especially the summary at the end of the second volume.

Just think what an excess of starchy and sugary food certain sedentary livers use. Here is the quotation from one of the recent reports of a Health-pupil, just before she consulted me. I asked her to put down the foods that she was having, and also the drinks. This is the list. Let the reader pick out from it the sugary and starchy food, and he will be horrified if he remembers that the person was leading an almost sedentary life in a comparatively stuffy house most of the day.

Early morning: Two cups of tea and sugar, with plenty of bread and butter.

For breakfast: Porridge, with sugar or golden syrup, coffee with plenty of sugar, bread (or

toast) and marmalade; sometimes also fish, but of course this is not Carbohydrate.

In the middle of the morning, occasionally, a glass of milk, which contains a good deal of sugar of milk.

For the mid-day meal: besides the flesh foods, potatoes, bread, and pudding.

At afternoon tea: With tea and sugar, bread and butter, cakes, etc.

At dinner: The same Carbohydrate foods as at lunch.

Sometimes a milk food in the evening, such as Horlick's Malted Milk, which is sweet.

No wonder we find that, when Dr. Kellogg's patients are fed on a diet rich in Carbohydrates, many of them seem to need a vast amount of air and exercise if they wish to keep well.

Dr. A. Haig's own diet in the past—I do not know what his diet is now—undoubtedly contained a great excess of the Carbohydrate and other elements, and a great excess of sheer bulk, and did not show at all a good combination of foods and drinks at the same meal.

On page 748 of the Fifth Edition of his large work, he says:—

"*I now give an outline of my own diet, which*

*serves to keep my urea at or about the required level.**

	ounces.
BREAKFAST—	
Bread and toast	3
Butter	2
Porridge, mixed with butter and salt ...	$8\frac{1}{4}$
Jam	$1\frac{1}{2}$
Milk, including that taken with porridge...	20
LUNCH—	
Soup (containing vegetables, milk, and butter)	10
Bread	$2\frac{3}{4}$
Rice as cooked	3
Butter	2
Bread and butter pudding...	$4\frac{1}{4}$
Cheese	$1\frac{1}{4}$
Milk	6
Fruit	2
AFTERNOON TEA—	
Bread and butter sandwiches, containing mustard and cress, cucumber, tomato or other vegetable	3
Milk—warm in winter, cold in summer ...	4

* I should like to ask whether Dr. Haig reckons the required level as an absolute level—in which case he is wrong—or as to be considered in relation to the specific gravity of the urine and other factors. Can it be that he finds out the total urea for the twenty-four hours, and converts this into Proteid equivalent by mathematrical calculations ?

SUPPER—	ounces.
Savoury rice or macaroni cheese	3
Scones	$2\frac{1}{2}$
Butter	2
Rice pudding	$4\frac{1}{4}$
Fruit	5
Sugar with fruit	2
Milk	6 *to* 10."

I quote from the 1900 edition purposely. Such a diet has no connection whatsoever with a Balanced Meatless Diet adapted for a sedentary worker.

If I were asked why such a diet as the above would be likely to lead to a breakdown, I should say that there are several strictly scientific reasons: among which would be the probable lactic over-acidity, and the certain Carbohydrate over-acidity, which, among other things, would probably lead to the retention of Chromogens and other Toxins and waste-matter generally, as well as to other undesirable results; though the constant stimulation from the Carbohydrate and fruit excess would, for a time, naturally give a sense of well-being.

I doubt whether even a strong navvy, in the open air all day, and using his muscles vigorously, could work off all this excess.

In different cases there would be different results from such a diet. But in quite a number of cases it would produce (and we have found that it has actually tended to produce) one or more of the following symptoms :—

Carbohydrate over-acidity in general.

Alimentary Glycosuria.

Obesity.

Fermentation.

Dyspepsia.

Waste of Food-Elements.

Constipation.

Sciatica and Neuritis, and other so-called Gouty or Rheumatic Disorders.

Headaches.

Irritability.

Deficiency of the blood with regard to certain important natural " Salts."

Retention of Toxins.

That the Carbohydrates are the main cause, in many cases, is proved by the fact that, when the amount of them is lessened considerably, a cure is effected in cases of Sciatica, Headache, and many other troubles.

Among these troubles one might mention Rheumatoid Arthritis, Asthma, Depression,

Migraine Headaches, Gouty Swellings, and so forth.

Now these symptoms, though in advertisements, and in works by Dr. A. Haig and others, they are attributed simply and solely to excess of Uric Acid, are not really due to this cause in quite a vast number of cases. In such cases the symptoms can be distinguished by the Expert. For instance, Mr. Collings can tell from the blood, and of course from the Crystals in the Urine, whether it is a case of Uric Acid or some other kind of over-acidity.

Inferences can also be drawn from the individual diet. (Mr. Collings and I generally arrive at the same conclusions independently, he by examining the blood, etc., and I by criticising the patient's report in the light of experience. Any discrepancy—which is rare—we find generally to arise from accidental omissions from the report.)

Then there are the troubles which come from wrong food combinations. One case we had, in particular, in which the trouble was due not only to wrong combinations of foods, but to excess of different elements in turn. First, there was excess of flesh-foods, producing terrible Rheu-

matism, etc. Then, when this had been cured by the giving up of flesh-foods, there was another trouble, less severe, due to excess of Proteid. But this was not the end of the case. When too much butter was taken, there was another kind of over-acidity. When too much milk and lactic cheese were taken, there was another kind. When too much Carbohydrates were taken—this was the worst cause of all—again there were other kinds of over-acidity This was one of the rare cases in which moderation in all things seemed to be the golden rule.

Now here is a huge list of factors which, so far as one can see, are utterly unconnected with excess of Uric Acid. For, if a person eats vast masses of bread and butter, what is there in the bread and butter that can produce excessive Uric Acid ? And, indeed, in such cases excessive Uric Acid is generally not found in the system. We must seek for some other cause. And, of the various causes mentioned above, almost any one alone may be seen, or one or two may be together, or one or two may be together with also Uric Acid. How, then, shall we differentiate between them ?

There are two ways :—

First, there is the Threefold Examination.

Then there is the verdict by results—the experimental method. If the Purin-free diet does not effect a cure within a reasonable time, we may assume that the Purin foods were not the cause, or were not the chief cause, of the mischief.

Uric Acid is often quoted as the main and chief cause (not quite the sole cause, but so great that others are negligible) of a host of diseases and troubles, both physical and mental, and, in particular, of all the Gouty and Rheumatic ones.

Several of the advertisements appearing in well-known papers may be quoted here :—

GOUTY ACHES AND PAINS

AND OTHER URIC ACID SIGNS.

Are you one of those who feel the effects of wet or changeable weather by experiencing aches and pains all over your body ? If you are, this article is specially intended for you, as it will show you the meaning of such pains, and what remedy you need.

You may be inclined to attach no importance to the occurrence of these aches and pains. Whether they be sharp pains, which come and go quickly, and are very acute while they last, or whether they are the more bearable but more continuous dull aches, which are oftenest present when

you have over-exerted yourself, or suffered some slight injury to joint or limb—whatever kind of pains they are, you may be inclined to think that they are not serious.

If you take this view you will be falling into the error which is responsible for the occurrence of the great majority of serious gouty ailments, which are so common in this country. For, however unlikely it may seem to you, you are, if you suffer from these pains, a gouty subject—a person whose system has that dangerous tendency to form an excessive quantity of uric acid.

SERIOUS GOUTY AILMENTS

Neglect these warning pains, and it is only a matter of time ere you fall a victim to either an acute attack of gout, probably in some small joint where the uric acid can accumulate easily ; an attack of rheumatic gout in one or more of the larger joints, or of gouty rheumatism in the muscles ; lumbago, with its persistent and intense pain in the loins ; sciatica, which is a hot, stabbing pain extending from the thigh to the knee ; neuritis, a similar pain affecting the arms ; or those severe maladies, stone and gravel, caused by uric acid concretions in the kidneys ; or gouty eczema, a serious disease that defies the ordinary treatments usually adopted.

The important question is : Will you heed these warning pains now ; will you accept them for what they are—indications of the growing goutiness of your system—and will you take the step which not only will rid you of the pains but remove the menace of a gouty future ? Will you do this, or will you continue to take the pains " as they come," try to obtain relief by rubbing or other useless means, and keep straight on towards a serious gouty malady ?

If you wish to take the sensible course, start at once with

a tried and successful remedy which can eliminate the uric acid from your system, remove the cause of these shooting pains and dull aches, and protect you against the development of severe gouty complaints. The remedy which is capable of affording you this relief and protection is ————. ———— neutralise and remove from every part of the system the uric acid which is solely responsible for every kind of gout.

THE IDEAL REMEDY FOR GOUT

If you take ———— occasionally while the gouty habit of the system is still in its infancy you will derive immediate benefit, as well as ensure future immunity from gout. ———— will keep you free of all pains, and will also relieve those attacks of acidity, heartburn, flatulence, sluggish liver and other dyspeptic symptoms from which you probably suffer now and again. The other gouty signs, too, which are often in evidence, and which demand the employment of ————, such as irritation and burning on the skin, and the formation of small lumps on the eyelids, the outer rims of the ears, around the joints, and on other parts of the body, all disappear under the action of————.

If you are already a victim to some serious gouty ailment, ———— are the only remedy you require. If your ailment is severe it simply means that the amount of uric acid to be got out of your system is proportionately large, and may therefore require a proportionately prolonged course of ————.

It is just because other remedies for gouty ailments have not the power of———— over the uric acid that such other remedies fail to give relief. The complete removal of the uric acid as effected by the action of ———— is the only way to secure relief from all pains, swellings, inflammation, stiffness and other suffering which attend goutiness.

HOW URIC ACID MAY BE DISSOLVED

FOR RHEUMATIC SUBJECTS

It is a question of rheumatism. Authorities have not yet agreed as to the origin of rheumatism nor even as to its nature. There is one point, however, on which all have agreed, and it is that the rheumatic diathesis is always characterised by an excess of Uric Acid.

They cannot effect this unaided, for the Uric Acid and the urates being, as I have already stated, insoluble, a beginning must be made by dissolving them " in situ " before there can be any chance of getting rid of them.

———— has further the inestimable advantage over all its rivals of being absolutely harmless. Consequently it may be taken in large and repeated doses without the slightest inconvenience, whether as regards the stomach, the heart, the brain or the kidneys.

As regards the unfortunate persons who suffer from chronic rheumatism, gravel, gout, sciatica, arthritic migraine, nephritis or biliary colic (with or without skin eruptions), ———— brings them relief and salvation, by draining Uric Acid from the system, and thus making a clean sweep of the cause of all their troubles.

———— AS A STONE SOLVENT

By Dr. ————

Gravel, stones, and concretions deposited in the kidneys, causing what is known as Renal Lithiasis, are not due solely to Uric Acid and its derivatives.

In his treatise on " The Causes of Gravel and Stone " (a standard work on the subject), Dr. Debout D'Estrées, of Contrexéville, mentions no less than twenty different substances apart from uric acid and urates, which can, and

do, enter into the composition of these deposits. Some of these are mineral salts (oxalates, phosphates, carbonates, silica and iron oxides), others are organic bodies (xanthic products, cystin, mucus, modified blood, hair, etc.).

But the chief source of the trouble is always caused by uric acid and urates of ammonia, potash, soda, lime, or magnesia. I can only repeat what I have already stated—*i.e.*, " that once uric acid and its compounds are eliminated, three-fourths, if not nine-tenths, of the task, is peformed."

Further, the various forms of lithiasis co-exist, as a rule, whether they occur in succession or simultaneously, and they are all subject to the same form of treatment.

Perhaps, however, special importance should be attached to Oxalic Lithiasis, which, though rarer than Uric Lithiasis, is nevertheless fairly common, especially in the case of brain workers, neurasthenic persons, the underfed, vegetarians, and those who are overworked.

In this case we have no longer to deal with *Uric Acid*, but *Oxalic Acid*, and the difference between them being considerable, it might be feared that what is successful against the one would be ineffective against the other.

To this I might reply by referring to my remarks stated above, and that it is the same with the secretion of oxalic acid as with all other troubles : they never come alone. This poisonous salt, with its brown (*sic !*) crystals, is nearly always accompanied by uric salts, and we have to begin by getting rid of these, since we know how to do it, and the rest will follow in due course : we shall, at any rate, have made a start. But more than that, according to several authorities, such as Drs. Benecke, Owen Rees, Gallois, Armand Gautier, etc., etc., oxalic acid owes its origin through association with uric acid, and is simply due to more complete oxidation.

It is a recognised fact that if uric acid, in the form of

urate of ammonia, be injected into the veins of a dog, oxalate of lime soon appears, which certainly proves that oxalic acid is generated from uric acid, and the pre-existence of the latter would thus appear essential to the presence of the former.

Need we add that the different forms of lithiasis, whether phosphatic, oxalic or uric, equally derive benefit from the same mineral waters? Now, it is known that if mineral waters act in a mechanical way by effecting elimination, they also act chemically, and derive their most valuable properties from the solvents of uric acid they contain.

Hence the means that are effective against uric lithiasis are not less effective against other forms of lithiasis, especially against oxalic lithiasis, and among them, ordinary diuresis is undoubtedly useful, although it does not suffice in all cases in preventing or curing lithiasis unless some substance is at the same time introduced into the system which is able to act as a solvent and eliminator of uric acid.

There are many such substances in existence, but none that can be compared with————, which is not only 37 *times more active than lithia itself*, but which also contains an antiseptic—urotropine—that is perfectly adapted to check all urinary fermentations, which are believed to be the cause of more than one form of lithiasis.

Moreover, ————, being absolutely harmless, even when taken in large doses (thus differing in this respect from salicylates, aspirin and other drugs), *and having no injurious effects on the kidneys, stomach, heart, or brain*, its use is recommended to all those persons who are aware of sandy deposits existing in their system; they ought not to wait until these are converted into gravel, for *prevention is better than cure*, and a good preventive course of ———— at the beginning or end of each month may be the means of sparing them endless pain.

This will also save them from the inconveniences of an excessively severe diet, although they must never forget that indiscretions at table are bad for them. They can, however, afford to look on the bright side of life, and we might add that cheerfulness is essential to them, for it may be observed that daily analyses reveal the presence of a higher percentage of uric acid on those days when they have given way to ill-temper or depression.

"*Remove the Uric Acid, and the rest of the cure is easy. It follows as a corollary that, wherever there are any of these troubles, then they are due, at least mainly, to certain foods eaten or drunk: not only that, but they are due, at least mainly, to no other elements in those foods except the Uric Acid in them.*"

The mischief of this dogma is, perhaps, not obvious at first, but it is very obvious if we consider the following point. Failure through wrong treatment leads to despair, or to distrust of all kinds of methods of treatment, particularly of Food Reform in general.

It would be possible to quote thousands of examples of people who would say to me, "No, thanks, I have tried your diet; it is a failure," when they have not tried my diet at all. They have only tried what they call a Uric-Acid-free diet, or haphazard "vegetarianism."

I had better take a concrete case.

It was a case of Gout or Rheumatism.

After a year of diet free from Purins the patient, in spite of a slight improvement in the conditions, was not really cured. The patient had been told by a specialist that she must persevere in the Purin-free diet. Then that patient came to us and was told that Uric Acid was not a factor in the problem. She said, "I do not want to try 'vegetarianism' any more." I explained to her that I had no connection with a diet of vegetables or a diet of cereals, and that I wanted to give a well-balanced diet of a clean kind, and of as pleasant a kind as possible. The lady tried the diet and was cured, not so much through a diet free from Purins as from a diet free from excess of Carbohydrates.

Take another case—a case of Stone in the Kidney. So far as the presence of a stone goes, the stone may be either Uric Acid or a mixture of Uric Acid and Calcium Oxalate, or chiefly Calcium Oxalate; or these together with other crystals. Shall we say that, in a case where it is a mixture of Uric Acid and Calcium Oxalate, it is the Uric Acid that does the chief harm? Certainly not. And in a case where it is almost

entirely a Calcium Oxalate stone—that is, where the X-rays are obscured and do not pass through the stone—it is ridiculous to attribute the trouble to Uric Acid, and to prescribe accordingly.

It is as if we were to say that an obviously kind schoolmaster, who could not keep his class in order, would succeed if he would only give up bullying his boys.

In such a case we may say that the mischief here is that *there is no sound diagnosis*. We are reminded of the story of a leading Consulting Physician, who is reported to have advised so many patients to the effect that they were cases of Neurasthenia and needed to go to a certain rest home in the country, that it became a habit, and, when a little girl one day brought her Teddy-bear in her arms, he pronounced automatically that the Teddy-bear was Neurasthenic and needed to go to that same nursing home, and immediately began to write a tonic prescription for the Teddy-bear.

As an example of the fallacious and dangerous reasoning from symptoms to a single cause, when one or more of many causes may be actually responsible, I quote an article on "Migraine Headache," by a Physician, in "The Herald of

the Golden Age." One naturally asks, "Suppose that a thorough Diagnosis—*e.g.*, by the Threefold Examination—shows that certain cases of Migraine Headache cannot be due to excess of Uric Acid, but are due mainly, let us say, to Carbohydrate over-acidity or Hyperpyræmia, what will be the state of mind of such persons when they have read this article and have dieted themselves in vain on Purin-free foods for a year or two? Will they not lose all faith in Food Reform?

Food-poisoning, pure and simple, explains every fact that we know of with regard to this headache (migraine), its relation to other diseases or to age, time of day, or season. It is periodic, because the presence of excess of waste-products in the blood is periodic; there are more waste-products in the blood when it is in a condition to dissolve them, and less when it is not in this condition. The blood is a better solvent (i.e., *contains more alkali*) *in the morning and in summer, and a worse solvent in the evening and in winter; therefore, these headaches are worse in the morning and better in the evening, worse in the spring and summer months and better in the autumn. Again, solubility is affected by certain periodic functions both in males and females; hence headaches occur in definite relation to these functions, rheumatism being worse and headaches better at one stage, and rheumatism being better and headaches worse at another. Pregnancy, again, interferes with the solubility of waste-products; hence headaches may be absent during this function, but they return, often with increased severity, after child-birth.*

Besides having waste-products in the blood, it is necessary for the production of headache that the heart be strong; otherwise the pressure cannot be kept up and no pain will result. Hence those who have high pressure headaches from excess of waste-products in the blood, have also strong hearts. When the strength of the heart fails in old age, the headaches cease and may be replaced by attacks of palpitation, demonstrating the strain on the heart. Again, anything that weakens the heart-muscles (starvation, strain, and some fevers) will diminish or remove headaches; but, as the effect of such heart weakness is to make the circulation and nutrition of the brain and whole body worse, other effects, such as neurasthenia, depression, dyspepsia, and anæmia, soon follow, and this explains the relationship of headache to such "diseases."

In all conditions in which the circulation in the brain is defective, there is more or less loss of both mental and bodily power; but only in the more severe conditions does this become actual neurasthenia, mental depression, or melancholia. Yet in nature there are all gradations between these names, which are really simply stages of one and the same process.

If the heart fails somewhat suddenly under its accumulating troubles (strain from waste-products and secondary failure of nutrition), the brain-circulation may become very defective, and mental depression then gives place to hysterical excitement or mania. We thus see that the common relation between hysterical excitement and the female sex is simply the visible result of the weaker heart muscle in that sex.

Headache then is a sign, warning, or danger-signal of many mental and bodily disturbances of function; and the prevention of headache is the prevention of these also.

The relationship of this headache to gout or rheumatism is highly interesting; for, when the waste-products are in the joints and fibrous tissues, causing pain, they are not at the same time in the blood, causing high-pressure and headache.

Hence the rule that, when there is gout or rheumatism, there is no headache; and vice versa. *The same applies to neurasthenia, depression, and the above-named group: they also are absent or diminished when there are joint-troubles.*

The relation of this headache to dyspepsia is that the defective circulation with high blood-pressure, which causes pain in the head, produces also the congestion of the liver and stomach, and, therefore, causes dyspepsia in various forms. It used to be said that migraine originated in stomach-trouble, excess of bile, and so forth; we now know that the stomach troubles are only another result of the defective circulation, and their severity varies considerably in relation to other conditions.

This headache is related to apoplexy in that high blood-pressure is the cause of both; high pressure causes pain in less severe and continuous forms, but it causes degeneration of vessels and their actual rupture (apoplexy) in its more severe manifestations.

It is also characteristic of high blood-pressure headache to be relieved by lowering blood-pressure without regard to the means employed; thus it can be relieved by diminishing food and fluids, by compressing the arteries that carry blood to the brain, or by drugs that clear the blood of waste-products. Headache due to tumour, however, cannot be relieved by such means, or can only be relieved temporarily and to a slight extent.

Such being the causation of the more common forms of headache, prevention and treatment are simple. The immediate treatment is to lower blood-pressure in the skull by raising the head, compressing the arteries, cutting down fluids, or clearing waste-products out of the blood. The same thing may also be effected by diminishing food as well as fluid (starvation), though, except as a very temporary measure and in severe cases, this is not advisable.

Prevention consists in keeping the body, and consequently the blood, as free as possible from waste products, and this prevents also gout and rheumatism and all the above-mentioned "diseases" which are really effects of food poisoning. In a word, leave out purins or xanthins and uric acid, *and do nothing to interfere with the free excretion of the small quantity of uric acid which is normally formed in the body. To prevent it passing out is to accumulate it; and it matters not how the accumulation is obtained, so long as it is present in excess in the body and can get into the blood; when it does so, high blood-pressure, with headache in some people, will result.*

Those are most fortunate whose heads ache in time to warn them of what is going on, while troubles are still functional and the heart is yet in fair condition. Those are most unfortunate whose heads do not ache easily; for the prevention of headache is also the prevention of many more serious troubles. **Liability to headache is an effective and valuable danger signal.**

(9) *The proofs of excessive Uric Acid in the system at any given time are any of the above symptoms* (see page 62), *the colour of the blood, the blood-pressure, and the excretion of Uric Acid afterwards in solution or in crystalline form.*

These symptoms, unless there is care to examine the living blood and the urine, etc., are not proofs of Uric Acid at all. Often we may have cases of Sciatica in which there is no excess of Uric Acid worth mentioning. I may allude

once more to the case quoted on page 54, where, after excess of Proteid foods had been removed, there were still the same or similar troubles, which troubles were removed when excess of certain other foods, including Lactic Cheese and Carbohydrates, were removed.

With regard to the colour of the blood, we cannot consider Dr. A. Haig as an Expert. I should like him to see a specimen of living blood under a microscope, and ask him to diagnose the case from his own point of view. It would be most interesting to hear what he says.

Blood-pressure can be due to quite other factors than Uric Acid. I have known a case in which very severe blood pressure was due to excess of fruit and excess of one or two other elements, not containing Uric Acid.

Excretion of Uric Acid may be a sign that Uric Acid is not the trouble. If a man has a tendency to be influenced by bad ideas, or if he is subject to external influences generally, it may be the best possible thing that he should throw off those influences as soon as possible. The throwing off of the influences may be the proof that they have not affected him adversely. Storage of the influences in him—for instance, the stor-

age of a foul picture in the mind and memory—may be the worst possible thing of all, especially when it is concealed and is not thrown off. I often think of the case of a well-known man who said that he would give years of his life if he could only blot out from his memory the picture of something which he had once seen.

Mr. Collings and I could produce cases in which all sorts of symptoms were due to other causes than Uric Acid.

We must repeat, once again, that the mischief of the theory that Uric Acid is the sole or the main cause of all these Gouty and Rheumatic and other disorders, is just this: it leads to despair and distrust. The statement that this is the sole cause convinces the person that the Purin-free diet must be observed rigidly; and we have had cases in which the rigid observance of the diet for seven or even ten years has not effected a cure. Think of the harm that is done here with the outside public. "So and so," they cry, "has tried this diet for years. Therefore all Food Reform is a failure."

We might say, though it sounds a bold statement, that we have had no case which has continued to be a Uric Acid case after six months of well-

balanced diet. Uric Acid, in no such case within our experience (and we have dealt with hundreds), has remained a serious factor after proper individual dieting.

Yet, in such cases, troubles may persist; when they do persist, we consider them due, not to Uric Acid in any appreciable excess, but to some other acid or acids, which therefore require some other treatment beyond a diet free from Purins, free from excess of Proteids, and free from excess of ordinary acids, such as fruits.

(10) *The chief proofs of the Theory include some cures, especially in cases in which some one or more of the above symptoms are present, and have disappeared when the Purin foods were cut out of the diet.*

We may grant the cures in certain cases, but how far are certain cures due to abstinence from, let us say, flesh-foods; how far are these cures due to abstinence from Uric Acid and Purins in this form; and how far are they due, on the contrary, to abstinence, let us say, from flesh-fibre, or from the various toxins of flesh-foods (on which subject we may refer to Dr. Kellogg); and how far are they due to the more subtle and,

so to speak, psychic elements, which we are told exist in all flesh-foods ?

So we may treat abstinences from other Purin foods : they may effect a cure. For example, when people abstain from tea, and are the better for it, how far is abstinence from tea a cure because tea contains Purins, or how far is abstinence from tea a cure because tea contains other elements, and how far because tea contains Purins *and* other elements together?

Mr. Collings and I believe that the mischief in tea and other things is not chiefly due to the Uric Acid or Purins that they contain, but rather to the effect which they have in preventing the system from excreting tissue-stored toxins. We have had examples of this, and we have been able to prove it in the case of people who have had a cup of tea or a glass of Bovril. We have found that the tissue-stored poisons have been thrown back upon the system into the tissues. The same applies to tobacco ; it is not merely the Nicotine that is harmful, but the tissue-storing which results.

Conversely, the chief disproof of the theory is the series of cases which have been cured of so-called Uric Acid troubles without the giving up,

or even with the increase of, the Purin foods. For example, the cases cured by the Salisbury diet.

In conclusion, we may quote Dr. G. A. Gilbert's remarks on Dr. A. Haig's theories :—

His (Dr. Haig's) mistake is in setting out personally upon more exploring expeditions than any single individual could possibly complete in a satisfactory manner, and which should have been left for others who were not thus handicapped, and who were better situated or more thoroughly equipped to perform the work properly.

Haig is not a chemist. Some of his subsidiary theories, based upon far-fetched chemical speculations, are distinctly amusing, or would be, if such credence were not given to his every opinion by the general practitioner. It is owing to some of the crude chemical methods he employs, and the remarkable therapeutic conclusions derived from them, that his entire work has been derided by the physio-chemists and other specialists. They have summed up the whole by judging of some of the unessential parts. This is unfortunate, as well as unfair, for it has led to a much underestimated opinion in certain scientific quarters of the value of Haig's work. (*P.* 222.)

VII.—FURTHER CRITICISM OF THE POPULAR TREATMENT WHICH IS BASED ON DR. A. HAIG'S THEORY

By Eustace Miles

DR. A. HAIG'S diet, quoted on p. 122, is a good instance where there may be abstinence from, or almost complete abstinence from, Purin foods, and yet there may be an excess of other acids or poisons, or of foods which develop into acids or poisons. Especially there may be excess of the Carbohydrate, or starchy and sugary foods. Dr. A. Haig's diet itself is terribly guilty of this excess.

The Purin-free diet may, in certain cases, especially if it is an unbalanced diet with regard to Carbohydrates, actually aggravate the trouble. This is the case, for example, with certain instances of Rheumatoid Arthritis, Headache, Irritability, Sleeplessness, etc.

Then there is an objection because of the excess of milk and cheese. Quite apart from constipation (which is a serious result of these two foods in hundreds of instances), excess of milk and cheese may develop a Gouty or Rheumatic tendency of the Lactic type, distinct from the Uric Acid type, except for a certain similarity of symptoms.

Many such points were to be found in the researches of others, but it seems as if Dr. A. Haig has not read these researches. He has ignored the contributions of other people who were trying to get at the truth. We shall allude to this directly.

Dr. A. Haig has made a great mistake in diagnosing by symptoms. He has taken certain symptoms which are practically common to many causes, and has put them all down as symptoms of Uric Acid, and of that alone. Often the case is not one of Uric Acid at all, or is not one of Uric Acid chiefly, or is not one of Uric Acid any longer, whatever it may have been in the past. It is rather interesting that, in many cases which I have treated with Mr. Collings, after they have been on my diet for some time, Mr. Collings reports that it may have been or may

not have been a Uric Acid case before, but the short spell of dieting which I have given them has been quite sufficient to remove any excess of Uric Acid that there was. Indeed, in such cases, we find quite a difficulty in getting Uric Acid cases! They are so easily cured!

And, assuming it is not a Uric Acid case, then what becomes of the Salicylate of Soda, the Lithia, and other supposed solvents of Uric Acid, which have no other apparent virtues at all?

And the Purin-free diet does not cure a large number of cases after a fair trial. Especially it fails to cure cases, let us say, of Calcium Oxalate Crystals.

And these failures, after the assertion that Uric Acid was the sole or main cause of the trouble, and after the experiments with Purin-free foods year after year, brings Food Reform as a whole into disrepute. I could quote here a letter from a medical student, who went to a place where an almost Purin-free diet was given. On the strength of his experiences there, he came to the conclusion that all "vegetarianism" —as he would persist in calling Food Reform— was a failure. The public is apt to judge the whole by one part only.

But the most serious objection to Dr. A. Haig's plan is that there is no scientific diagnosis connected with it. Many advertisements could be quoted (see p. 127) to the effect that, if there is a trouble, then it must be Uric Acid. Mr. Collings' way is entirely different. Instead of examining the urine, for instance, in the ordinary fashion, he examines it thoroughly, not merely so as to be able to say that there is no Kidney Disease, and no Diabetes, but so as to be able to say what are the chief poisons that are coming out, and so on.

Dr. A. Haig's idea makes practically no allowance for individuality. What's one man's meat is another man's poison, and what's one man's poison may be another man's meat. There are remarkable cases of individual immunity as well as of individual over-susceptibility to excess of Uric Acid as well as to the other poisons.

Dr. A. Haig's diet tends to cut off certain things unnecessarily : for example, in certain cases, all eggs,* the pulse-foods, and even wholemeal in its finest-ground form ; although such things may not be the causes of the troubles,

* See Appendix III.

generally speaking, and may not be the causes in the case of the individual.

He ignores the value of green-stuffs—for example, of Lettuce, Spinach, etc., especially when they are conservatively cooked, or when they are taken in the form of vegetable-juices, or in the form of a properly prepared salad without vinegar.

He ignores also the homœopathic remedies. Mr. Collings and I have had wonderful results from the proper uses of certain homœopathic doses, let us say, of Soda, Potash, Iron, Lime, etc.

Then, again, he does not realise the value of Oxygenisation. Part of the Uric Acid trouble is due to the want of Oxygenising of certain elements.

Nor does he properly estimate the importance of the right exercises, and especially of Deep and Full Breathing.

Nor of massage.

Nor of certain hot water and hot air treatments; though he condemns cold air and chill.

Nor of the various mental helps, apart from the absence of worry.

Dr. A. Haig is not a chemist, as indeed, Dr.

Gilbert says: nor is he a clinical analyst. He should study the urine examination in detail, and the examination of the excreta. Then he would get more satisfactory evidence as to the exact results of flesh-foods, and other foods as well, in the human body.

VIII.—QUESTIONS THAT I AM OFTEN ASKED

By Eustace Miles

I AM often asked *why I have selected Dr. A. Haig as the chief representative of the Uric Acid Theory*, since there are plenty of other writers and authorities. For example, a whole number of a leading medical journal was devoted to the subject of Uric Acid. There is published in America a Uric Acid Monthly, largely, so far as I can see, for the advertisement of certain drugs. Then there are the many works quoted in the books by Walker Hall, Gilbert, and others, to say nothing of these books themselves.

If I attack Dr. A. Haig, it is not because I am not grateful to him, but because he is probably the best known, the most influential, the most dogmatic, and the most slavishly followed of all the authorities on Uric Acid.

Dr. A. Haig is thoroughly convinced he has put the matter to the test of personal experience; he is perfectly clear; he brings out

only one issue, in the most uncompromising fashion: he is best known by the people in general, or, at any rate, by my own readers; he has most largely influenced doctors. In fact, many doctors have applied to me and asked me for a Purin-free diet for their patients, without having found out whether the cases are really one of Uric Acid or not.

And Dr. A. Haig has done much good in certain cases. Unfortunately, in such cases, the people who have benefited by his treatment have generalised as dogmatically and unscientifically as he has, and this has led to numerous failures. Some ladies, in particular, are most enthusiastic about his diet because it has helped them, and have proceeded to lay down the law for others as to what are the chief causes of practically all human ailments. And in this way every failure of the Purin-free diet, due chiefly to the fact that such cases were not at first—or were not any longer—Uric Acid cases, has done enormous mischief.

But especially I attack Dr. Haig because he has fixed ideas, and because his views are put in a final form. He does not speak as one who at one time contributed a single facet towards the

many-sided crystal of truth, and as one who then became a searcher after new and perhaps more important truths.

It may be asked why *I attack the Uric Acid Theory*. Many people have written to me to this effect: "I have had headaches, and they were cured by the use of Purin-free food." It is a type of letter which I am glad to get. But, when these people conclude that *all* headaches are due to Uric Acid, that is a fatal mistake. Other people write and say: "I have a headache, which must be due to excess of Uric Acid; therefore please tell me what would be a good Purin-free diet for me." In such cases I am not at all sure that the Purin-free diet, *per se*, is the one which is really wanted. If it is not a Uric Acid case, then the Purin-free diet will not by itself be the best and quickest way to a cure.

It will be asked, *What practical advice is based on this book?*

If the Purin-free diet has improved you as an individual, do not stop there. You may improve still further if you cut down, for example, the amount of Carbohydrates (or starchy and sugary

foods) : instead of having reached your optimum, you may still be far off it.

If the Purin-free diet has not improved your health, or has not improved it enough, then try other diets, not necessarily with much of the Purins in them, but diets free from the other mistakes to which we have alluded in this book.

Get a thorough diagnosis, as distinct from the verdict which is based on symptoms that may equally well be caused by other acids, as far as a cursory examination reveals.

If you cannot or will not have a thorough diagnosis, then make certain changes gradually.

A diagnosis from the diet of a patient may reveal certain mistakes. Quite apart from excess of meat-extracts and flesh-foods, there may be excess of Carbohydrate foods, there may be excess of sour or curdled milk and cheese ; there may be excess of butter ; and there may be deficiency of water, and of certain natural " salts." Besides the absolutely thorough diagnosis, including the Threefold Examination, much practical help can be got in the study of what is really a balanced diet for the individual, living the life that he lives, and having the characteristics that he and his ancestors had.

From the general investigation of hundreds of cases, we have been able to map out what may be called class or group diets. They are not perfect individual diets, but they are steps in the right direction. In particular, we have been able to map out certain diets suited to those people who lead a sedentary life in foul air, those people who, in past years, have had too much of those foods—namely, the Carbohydrates—of which the chief function seems to be to provide fuel for muscle-work.

If a Purin-free diet is indicated, what foods and what meals do you advise?

If we take away the Purin foods, and especially if we take away also the excess of Carbohydrate foods, it may seem at first as if very little was left; and I would warn most readers against excess of Carbohydrate foods quite as seriously as against excess of Purin foods.

I would also warn them to attend to the proper amount of natural "salts," particularly of the alkaline kind, and at the start to attend to nice flavours—not excessive flavours, but just enough to arouse the appetite and help the digestion. Later on, less flavour will be needed.

I shall be only too glad to send free recipes to any one who cares to write to me. In this book it is impossible to map out a series of various menus and recipes. There is not space.

Proteid bases are, as Dr. A. Haig has pointed out, of very great importance. Readers will naturally ask, if they are not acquainted with food-values, what Proteid does in the human body. The answer is, according to the scientists, that it builds the tissues of the body and repairs waste, that it provides a certain amount of fat and heat and energy, that it serves as a tonic (especially to the digestion), that it helps to prevent disease, and that it aids the elimination of certain acids from the body, thanks to the ammonia which is released from it at the end of its assimilation.

I warn readers not to use the word "nitrogenous": it is quite different from "Proteid." Nitrogenous foods include Proteid foods, but they include also the waste-products of the animal, popularly known as Uric Acid. The word "Nitrogenous" is too vague, since it alludes not only to the body-building elements, but also to the meat-extracts, which, according to Dr. Robert Hutchison, are devoid of body-

building (Proteid) elements. Dr. Liebig also confirms this view.

I have had most experience, with regard to food-bases, as to the results of "Emprote," which contains about 36 per cent. of Proteid (that is, about double the amount of raw meat), and needs no cooking, and can easily be added to any other food. For instance, it can be mixed in soup, it can be added to vegetables in the form of a sauce, or sprinkled on the vegetables; it can be added to macaroni and other dishes, or can be mixed in with them in the cooking; it can be mixed in to form croquettes, rissoles, etc.; it can be mixed in a salad dressing; it can be mixed in biscuits and cakes and bread and puddings, or it can be added to puddings in the form of a sauce; or, again, it can be taken in the form of Proteid Tablets.

And it can be had in various flavoured forms—for instance, as in "Proto-savoury," etc.; or in different specially prepared forms for curative, remedial, and strength-giving purposes, as in "Malted Emprote," "Protonnic," etc.

Cheeses form another basis, to which the objection sometimes is that they are constipating. They are, however, very rich in Proteid,

having about 33 per cent. (though some cheeses contain much less). Most cheeses are best if they are first passed through the nut and cheese mill. This makes them far more digestible. Cheese can be taken as cheese, or it can be taken in the form of cheese dishes (for instance, in the form of Welsh Rarebit, or toasted cheese), or it can be taken in the form of an *au Gratin* dish (for example, cauliflower or any other vegetables *au Gratin*), or it can be added as a cheese sauce; or it can be made into a sandwich paste, in which form it is very good indeed, mixed, for instance, with butter and a little "Emprote" and a little flavouring.

Nuts form another valuable basis, especially if they be milled first. Nuts vary in food-value, but the average nuts (such as walnuts and hazels) contain about 16 per cent. of Proteid; pine-kernels contain far more, but they do not agree with every one.

Nuts are often far more digestible if they are first roasted and then milled. Some people prefer them first fried and then milled. There are some people who get on better with raw nuts. But I believe the majority of people in starting Food Reform get on better with cooked and

milled nuts, served, for instance, in the form of nut cutlets, nut croquettes, nut sausages, nut roast, nut pies, and nut sandwich pastes.

Or milled nuts can be sprinkled on vegetables or on salad, or on various other dishes. Probably we shall find that, when we know how to prepare them rightly, the pine-kernels or pignolias are the most valuable of all nuts.

Then there are the whites of eggs, which can be boiled or poached or fried, or taken raw as they are, or with nuts. There are many dishes which can be made from them. Thus, one can have scrambled whites of eggs, or an omelette made with whites of eggs. We teach these dishes in our cookery school.

And eggs can also be used to stiffen and bind cutlets and croquettes ; and then, again, used to cover them with before they are fried.

Dr. A. Haig has an objection to the yolks of eggs on the ground of their containing Purins, as probably they do, when the eggs have been kept some time. Whites of eggs come below nuts in Proteid value.

The cereals come below whites of eggs for the most part, especially when they are prepared and served in the usual way. Thus, for example,

an ordinary porridge, cooked in the English fashion, will hardly contain more than three or four per cent. of Proteid. Cereals are best taken in the crisp form, so as to compel mastication and help digestion. But we do not recommend quantities of cereal foods unless there is abundance of vigorous exercise in the fresh air, and unless the case is free from Carbohydrate over-acidity already. Many cereal foods, as sold to the public, are deprived of the vitamines and other valuable elements.

Without cereals and other starchy foods, such as potatoes, it is very difficult indeed to get good "fillers-up" for meals. One of the reasons why people require, or seem to require, "fillers-up," is that the stomach of many people has become unnaturally distended. Then the walls do not work at and turn about and squeeze and otherwise digest the meals, unless these walls are filled to within a certain distance of their full capacity. Otherwise the meal remains undigested at the bottom of the stomach, and the walls do not pound it and massage it, as it were.

Some root-vegetables can be used as "fillers-up," but they have the disadvantage, for the most part, of tending towards Carbohydrate over-

acidity. This is particularly the case with potatoes, not only when they are cooked in the English fashion, but when they are cooked even conservatively, unless people are having a very healthy out-of-door life.

Then there are some cereal foods, such as rice and macaroni, to which the same objection applies.

Probably the best "fillers-up" are green-stuffs, such as watercress, lettuce, spinach, etc., and celery. Such green-stuff can be taken raw, in which case it may be first passed through a flaker, or it can be taken cooked conservatively with its juices, or it can be taken in the form of vegetable-juices, or in the form of a sauce. Various blends of vegetables, like various blends of herbs, are particularly suited for this or that kind of disorder. It is impossible in this brief space to deal satisfactorily with this important subject.

Fruit is a good "filler-up," in moderation, in the summer. But its effects, especially in the cold weather, may be to increase the over-acidity in the blood. Mr. Collings and I have found this to be so in very numerous cases. And, when the blood is in this over-acid condition, it will

not take up enough of the tissue-stored poisons, as is proved, among other ways, by the small number of white cells, when we know that the body has a quantity of toxins to eliminate.

Oil is a good "filler-up," whether it be taken in the form of best olive oil, or pure nut oil, or vegetable butter.

Then there is pure water, distilled water being the most satisfactory for a large number of people, who cannot get pure soft water otherwise. The right time for taking water is, pre-eminently, the first thing in the morning and the last thing at night, and at least an hour before meals. The water should be sipped, and should not be swilled down.

Here I would warn the reader to distinguish between the ordinary diet, which he can continue when he is well, and the strict diet, or remedial diet, which he should continue till he is well. The cranks and extremists in diet have made an enormous mistake in confusing these two types of diet. They have found a diet which is good in a remedial way, and have urged people to continue it long after the remedial stage has been completed.

Secondly, I would remind the reader of that sacred principle of *Individuality*. One individual

differs from another, and one individual differs considerably at different times of life and under different conditions. This applies to the best food-bases, to the best "fillers-up," to the best quantities of foods, to the number of meals, and so forth.

As to *Flavourings*, they have been too much neglected by food reformers. And with them we may class the appearance of the foods: the way in which the dishes are served, and their consistency, which should usually be firm enough to encourage, if not to compel, mastication.

First of all, there are some things which have sufficient flavouring of their own: for instance, a good cheese, roasted nuts, or finely-ground wholemeal bread. These things need no added flavouring.

Among the best of flavourings are lemon and lime-juice, which should not be used to excess; the tribe of herbs, such as parsley, thyme, sage, mint, marjoram, etc., etc.; the onion tribe, including leeks; mushrooms and tomatoes, though Dr. A. Haig would exclude the mushrooms as containing Uric Acid or Purins; and the same objection might apply to certain so-called vegetable extracts.

The proprietary sauces in tiny amounts may be very useful. There is no need to give a list of them. They are to be found in abundance in every grocer's shop.

Then there are salt, pepper, and mustard, of which very little, if any, will be needed when the foods are cooked conservatively. Then there are the curries. The curry powders should be fried first before they are used. In our School of Cookery we always insist on this, and the result is a curry which is not an irritant, but is quite soft and delicious.

We must remember that, as Food Reformers progress and become healthier and healthier, they need less and less added flavouring; so that I have known extreme cases in which quite a little flavouring has upset the Food Reformer and made him ill. This seems going rather too far in the direction of simplicity.

Quantity is a great problem. How much should a person have of Proteid, of "Salts," and so forth? No one can tell. As I said just now, individuals differ one from another, and they differ also considerably at different times in their lives. The most successful method I

know of is to have well-balanced meals, slightly flavoured, and of good consistency; and to have, preferably, one-course meals; and to eat until one begins to feel comfortably satisfied; and, above all, to eat in a leisurely way.

The difficulty about quantity applies also to proportion. But, generally speaking, one may say that in a remedial diet one should take less of the Carbohydrate and starchy and sugary foods than is usual in the orthodox diets, and more of the green elements and more of the watery elements.

"What is your own diet?"

I cannot say that my diet is the one which I should recommend to most readers, for at the Eustace Miles Restaurant I have to do a good deal of tasting. I do not care much for egg dishes myself, but they are very valuable for those who are beginning Food Reform without meat, and who are at a loss what to choose. They turn to the egg-dishes and to the cheese dishes as familiar friends in an almost unknown country.

Preferably I take one-course meals, and I have no flesh-foods of any kind, nor any meat-extracts,

nor meat-juices, nor meat-sauces, nor meat-soups of any sort whatsoever. And this has been my plan for nearly twenty years, except for a few deviations and occasional lapses during the first few years of the experiment.

Personally, I can get my Proteid from all sources mentioned on pages 157, 158, but I prefer to get it from "Emprote." I do not object to a certain amount of the pulse-foods—namely, peas and beans and lentils.

I have found that excess of Carbohydrates (or starchy and sugary elements) is most unsatisfactory. I do not take much of the macaroni and rice and bread foods, nor much pudding.

I do not care for much added flavouring. It does not upset me particularly, but I prefer the foods without it.

I take no coffee, practically, nor any tobacco; and I do not take any cocoa or chocolate if I can help it; but I do take some tea.

I shall be glad to send any one, who is interested, a list of my own favourite foods and dishes. I need not burden the reader with them here, but I may say that the plan which suits me best is to have not more than two meals a day. My breakfast consists of a cup of tea, preferably—

occasionally with a little toast and butter, though I generally do a more satisfactory morning's work and exercise without it. Then I like to have a light meal of one course in the middle of the day; and a meal sometimes of two courses or of one course, with vegetables, in the evening.

"*Why not leave the Uric Acid Theory alone, since it has done much good? It tends to humaneness and cleanness, and has benefited yourself and many others. Is it not a mistake to attack it?*"

I grant that it has done much good to myself and others, but it is not up-to-date. We must have the best. That is one reason why England fails. It is content with the second best and the third best; it is so in sport, it is so in business, it is so everywhere. What one wants is the very best for the nation. Nothing short of the very best is really satisfactory.

I object to the Uric Acid Theory as stated by its leading exponents; first, because it is not science, but is put forward as science: secondly, because it is not a panacea, but is put forward as a panacea.

Hence, loss of faith on the part of the public; and not only loss of faith in the Uric Acid Theory,

which I do not mind so much, but loss of faith in any and every kind of Food Reform. This is really a terrible result of the theory and practice, as it is usually stated.

The same applies to the failures of haphazard "vegetarianism." Because of these, thousands of people (we might say hundreds of thousands) have refused Food Reform altogether, since they say they know of people who have tried vegetables and have had sloppy, pappy messes, and have broken down on such a diet. And they say, also, that Food Reform must be this kind of diet. Hence they condemn *any* kind of Food Reform, even my own, which has not the remotest connection with haphazard "vegetarianism," except in so far as it avoids flesh-foods and meat-extracts.

It cannot be too clearly understood that for people who are not Uric Acid cases to be put on a diet free from Purins, as if that were going to cure them of all their troubles, must lead to serious troubles in the end; the greatest trouble of all being the loss of faith in diet as a factor in the cure. *The hardest part of the work which Mr. Collings and I have to do is to repair the mischiefs from the wrong kind of Food Reform.* Till people

have tried Food Reform in some fashion or other, they have not yet lost faith in it. For the most part, when all other means have failed, they are willing to try Food Reform. But, when they have tried the wrong kind, and that has proved a failure, they are reluctant to try another kind, however scientific it may be. I have endeavoured again and again to point out that ours is not simply a plan of avoiding flesh-foods. It is a diet of *substituting* certain other and purer and more satisfactory body-building bases : of giving balanced meals for the individual; of giving these meals in an attractive and digestible form, and without too much bulk, but with sufficient variety. Yet, again and again, I am met with this objection : " I, or some of my friends, have tried ' vegetarianism,' and it has been a failure. We have tried Uric-Acid-free foods, and they have not cured us. Therefore, no diet can possibly cure us."

I wish here to defend myself from certain charges which have been brought against me recently.

First, I am said to be against " Vegetarianism." I am against haphazard " vegetarianism,"

because the public understands that word to mean a diet of vegetables, perhaps including a diet of sloppy cereal foods. I am not against balanced meatless meals of the kind described in the last section; I am in favour of this diet, and I rely on it for my own health.

I have been accused of being against a diet free from Uric Acid and Purins. Now my personal experience is in favour of this diet; and many of my Health-pupils and others have benefited by this diet; and indeed the menu in our Restaurant is sufficient answer to this objection. I believe that the Purin-free diet, other things being equal, is really of great advantage in the direction of the humanitarian and æsthetic movements of to-day, and for other reasons as well, not the least of which is economy; and, indeed, in many cases I prescribe the diet free from Uric Acid and Purins.

I am not against this diet, but I am reluctant to cut people off from all foods which contain Purins, unless I feel that theirs are cases in which these foods are a poison. The absolutely Purin-free diet narrows down the range of foods unnecessarily. For example, many people have thrived on lentils and beans. Now, if these foods

do these people no appreciable harm, but sustain them well, they are invaluable to the nation, since they are almost imperishable in their dry form, and are extraordinarily cheap ; they ought to be among the national food-bases of to-day ; and the mere fact that they contain Purins ought not to be a sufficient objection to them, especially for people getting plenty of exercise in the open air. It is not so much the Purins that are the mischief, as the Purins in combination with certain other food-elements, or used to excess in a sedentary life.

I oppose the Uric Acid Theory if it is put forward as a panacea for all people and all troubles ; and if it is put, as it usually is, out of perspective, and if it is automatically prescribed as a panacea without adequate diagnosis, or even without any attempt at diagnosis at all.

Next, I have been accused of using the flesh-foods. Now most of my cures, and they number a good many thousands, have been effected largely by the use of meatless foods, the substitution of other food-bases (see p. 157) for the flesh-foods. And my own personal experience is dead against the use of flesh-foods and meat-extracts in my own

case. Nor can I imagine myself as ever taking flesh-foods again. I do not see how the necessity for them could arise.

But some people refuse to use other food-bases. They say they must get their meals at home; they will not get any extra food-bases, and, rather than that they should give up all flesh-foods and have instead a mass of Carbohydrates (or starchy and sugary foods), very badly cooked, and so be led to give up Food Reform altogether, I often am obliged to allow them the use of a certain amount of flesh-foods (preferably fish or chicken), with the minimum of Carbohydrates. And in such cases I put on one side the humanitarian and æsthetic aspect of the question. I get remarkably successful results in cases where the cause of the trouble was not excess of Uric Acid, but rather, for instance, Carbohydrate over-acidity.

Last of all, I must emphasise the fact that the harm in the flesh-foods has not yet been proved to be through the Purins that they contain. It may be largely through other elements (see pp. 19, 39, 44, 117 and foll., 125 and foll.), some of these being more subtle than chemical analysis can yet reveal.

I have been accused of being inconsistent. For instance, years ago I believed what people stated so dogmatically—namely, that no "salts" could be assimilated by the human body unless they had first been through the plant world. Now I have had to withdraw from this position because my experiences with Mr. Collings have convinced me that people can assimilate and do regularly assimilate, and get into their blood-streams (without any bad after-effects of any kind that one can trace) iron, for instance, when taken in the right form and in the right way in a very fine trituration, and lime, also, in the same way; and, again, when they take minute doses of soda. I am not in the least ashamed of being inconsistent; I am rather proud of it.

But I am as much as ever, and perhaps more than ever, against the use of heavy doses of drugs, particularly if these drugs are prescribed (as they often are) without a proper diagnosis: for instance, if heavy doses of iron are prescribed in so-called cases of Anæmia, when the Threefold Examination, and the Examination of the living Blood, in particular, proves that the individual is not in the least deficient in iron so far as his blood-stream is concerned.

IX.—A FEW CONCLUSIONS ABOUT URIC ACID

By Eustace Miles

I WROTE these conclusions before I read Mr. Collings' summary (on p. 181).

Uric Acid is *sometimes* the chief cause, possibly, for practical purposes, *sometimes* the only cause, of various troubles, particularly of the Gouty and Rheumatic kind (see Dr. A. Haig's list on page 62). An overdose of *any* acid (practically) may produce Rheumatism ,etc. The need is to excrete such acid, selectively, before Uric Acid leads to retention of such acid, and before (if the retention is in the joints) Gout results.

Uric Acid may *sometimes* be due mainly, or, for practical purposes, solely, to Purin-containing foods : for example, flesh-foods ; but generally to these foods not taken by themselves, but taken in combination with what may be called " incompatibles."

The chief proof would be the many well-substantiated cases in which some of these troubles have disappeared, and no other troubles have appeared in their place, when no other change has been made in the way of living, but when the Purin-containing foods, or some of them, say the flesh-foods, have been cut out of the diet.

But even here we are not on scientific ground.

How far were the troubles, in such cases:

(*a*) Due to Uric Acid, and, for example, Carbohydrate excess as well? I need only refer here to Dr. Francis Hare's learned work, entitled "The Food Factor in Disease," in which work he calls Carbohydrate excess "Hyperpyræmia" (not altogether a satisfactory term).

(*b*) Due to Uric Acid, together with the toxins (for instance, the toxins that are in flesh-foods)?

(*c*) Due to such toxins alone?

The real test would be parallel cases, if we could obtain them:—

(i) First of all, on the old diet, but without the Carbohydrate excess; it would then be very like the Salisbury Diet of flesh-foods and hot water and little else besides.

(ii) On the old diet, but with the toxins removed, if this could be done.

(*d*) We may add as another cause, the deficiency of certain "salts" in the diet, particularly Soda and other alkaline bases.

(*e*) Then we may add the deficiency of fluids, particularly distilled water, or the juices of vegetables.

My personal experience is against the Purin Foods on the whole, in my own case and in many others; but in my own individual case it is not against a certain amount of the pulses and of tea—at any rate to the same extent, as it is against the uses of flesh-foods and meat-extracts.

My experience—it is only an individual one, but there are people who agree with me more or less in their own experience—is against coffee, cocoa or chocolate, and oatmeal. But here the trouble may not be the Purins, or may not be these alone; the trouble may be certainly other elements—for instance, the combination of Purins and Tannin in the coffee, perhaps with some subtle poison; or the combination of Purins in the cocoa together with some other poison there.

My conclusion is that Uric Acid is not a really

dangerous trouble in most cases; that is to say, it is not an insidious poison like the results of Carbohydrate over-acidity, or certain of the Chromogens.

Nor, as a rule, is it accompanied by the same craving when Purin foods are given up. It cannot be compared in this way with Alcohol. The person who gives up Alcohol, and takes the wrong diet, generally has a craving to return to Alcohol; but the person who has given up flesh-foods very soon loses the taste for them. It is true that people who have given up tea do not lose the taste for tea too, and the same applies to tobacco. But there may be other reasons, besides the presence of Purins in the tea. There may be the combination of Purins and tannin and other elements. Certainly one cannot account for the craving for tobacco by saying it is due to the Purins in the tobacco!

Uric Acid troubles of the usual type are not difficult to cure. Nature has at least five bases which can counteract Uric Acid; and the cure should not take longer than a few weeks, up to a few months, with strict dieting.

One may safely say that, if the troubles and symptoms still persist after six months of strict

dieting, then probably these troubles and symptoms are due to causes other than excess of Uric Acid.

Not only are Uric Acid troubles not long in being cured; not only are they not dangerous in themselves as a rule; but they are not a quarter the evil that they are generally assumed to be. In vast numbers of cases of so-called Gouty and Rheumatic trouble, the mischief does not lie with the Purin foods chiefly, and in many examples it does not lie with them at all. The proof of this is that the cure can be effected without abstinence from Purin foods, but rather by abstinence from different classes of foods altogether.

PART II

SUMMARY OF THE PRESENT POSITION AS REGARDS URIC ACID.

By C. H. COLLINGS.

INTRODUCTION :—

Let me tell you a little story.

A dear little boy—with capabilities of naughtiness, but, still, generally well-behaved—stood by an open toy-shop door, gazing longingly within. Suddenly a crowd of rowdy school-boys swept up the street. They seized the situation at a glance, and, shouting, booing, and hooting, they poured like a torrent into the shop, the little boy carried before them like a cork on the crest of a wave. No less suddenly, the wave retreated, leaving the cork stranded high and dry, far up the shop, scared and bewildered, tearfully explaining to the irate shopkeeper, " Please, Sir, it wasn't me."

Such is very much the position of **URIC ACID** nowadays ; and the latter, not being endowed with a voice, is silent. I have endeavoured, accordingly, to speak on its behalf.

(1) **URIC ACID** is a normal, though minute, constituent of many foodstuffs.

(2) In small quantities **URIC ACID** is a normal waste-product of the organism.

(3) Under normal conditions the foodstuffs from which it is derived—either directly or indirectly—furnish an ample supply of "base" to combine with the **URIC ACID** to form a soluble salt.

(4) Under pathological conditions, **URIC ACID**—never formed alone—finds itself a minor factor amongst a series of toxic bye-products. It and they come into being together as a common expression of a departure from the normal.

(5) As a subject of study and a means of diagnosis, **URIC ACID** therefore rather a danger-signal than the danger itself. Un fortunately, hitherto, investigators have largely confined the attention to the signal only.

(6) There exists in the system a principle of action which I hav named "**selective excretion.**" Nature, regardless of priority ingestion or formation, throws out the most poisonous element and retains—where she **must** retain something—those that a most easily tolerated.

(7) The presence and accumulation of **URIC ACID** in the system a accounted for on this principle, and bear witness to the forme presence and prior excretion of other (dangerous) toxic bodies, whose formation that of the **URIC ACID** acted as a concomitant.

(8) **URIC ACID**, therefore, to-day, stands in a false position. Th importance of it, *quâ* Uric Acid, has been greatly exaggerated and, correspondingly, attention has been deflected from thos other and far more toxic bye-products whose consequences in th human system, and so to the health of the community, it seem difficult to overrate.

(9) Correspondingly and consequently, the whole question of right an balanced diet has been thrown into extraordinary confusion by th worshippers of the **URIC ACID FETISH.** The responsibility fo this state of things and its sad consequences must lie upon **thei** shoulders. Meanwhile, others, a little less fanatical, and a litt more far-seeing, find it incumbent upon them to do what lies i their power to clear up the mess, and to re-establish diet, an the dietetic treatment of chronic disease, upon a sane and wel considered and really scientific basis.

X.—*A Review of Dr. Kenneth C. Haig's book, "Health Through Diet."*

Extract from the Introduction to the Series of Articles in "Healthward Ho!"

Constantly the readers of "Healthward Ho!" and my various correspondents and Health Pupils have asked me to write more fully with regard to Uric Acid. A lady who years ago used to recommend a (somewhat too bulky and starchy) Uric-Acid-Free Diet most enthusiastically, found that most of those whom she had persuaded to try this plan, gave it up after a more or less prolonged experiment. Merely to avoid the so-called "Uric-Acid" Foods, then, was obviously not true Science, even when—as in such cases—quantities of milk and cheese were taken. What is the truth about Uric Acid? I have asked Mr. C. H. Collings (known to the readers of "Healthward Ho!" as "Clinicus") to give his views. I have never read a clearer or more reliable and accurate account of the matter than his. I hope it will help thousands of readers to get rid of the exaggerated views which have done so much to narrow down dietaries unnecessarily, and yet to make them disastrously heavy and carbohydrate, etc., and to lead to a type of over-acidity which Mr. Collings, with his long clinical and laboratory experience in blood-diagnosis and urine-examination (of the sedi-

ment, chromogens, etc.), recognises as one of the most important factors in modern diseases and ailments—a type of over-acidity which, so far as I can see, is scarcely mentioned from the beginning to the end of the various books which have been published on Uric Acid—a type of over-acidity at any rate no less injurious than Uric Acid, and, in fact, all the more injurious in proportion as it is unsuspected.

Eustace Miles

THIS is an elegantly bound volume in dark blue cloth, with gilt lettering ; and printed on paper that makes it conveniently light to handle. So much for appearances.

The interior of the book, however, is another matter. I do not purpose to write a conscientious, page-by-page criticism, so much as to pass from one point to any other that seems to me particularly worthy of attention ; and to say whether I agree or not with the author, and, if not, why not.

I may state at once that I regard the theoretical basis of the book as mainly a fallacy. In other words, the supposition that Uric Acid alone is responsible for the large and elaborate role assigned to it is wholly indefensible ; and a

first-hand study of the facts of Urine Analysis should have convinced the author by this time that there are other factors at work in bringing about the various toxic conditions which are now known, by some, at least, to lie at the root of so much systemic disease.

Apart from first-hand knowledge, even a superficial acquaintance with the more recent literature of the French School might have saved the author from the absurd position he takes up in assuming that Uric Acid is the *fons et origo* of so much human suffering and disease. I will at once make my position quite clear by a quotation from his book; and then by stating a few elementary facts in relation to auto-toxaemia. On page 91 he says:

> *In order to demonstrate that the death-rates due to some of the diseases that are caused by uric acid are increasing on the average, I give a table showing the death-rate per million living due to some of the diseases that are caused mainly by errors in feeding.*
>
> *Death-rate per million living due to:*
> *Broncho-Pneumonia*
> *Cancer*
> *Anaemia*

Diabetes
Heart Disease due to Rheumatism
Apoplexy
Bright's Disease
Suicide.

I invite the candid reader to consider this list. The sense of the text is that the above eight diseases (*sic*) are due to Uric Acid. I am impressed by the originality of thought that classifies Suicide as a disease, and likewise tells us its specific cause in so few words. I used to suppose, myself, that the pressure of life, competition, worry, and many causes discussed by psychology were largely concerned in suicide ; and in some cases, entirely. I must confess that it is a relief to know that Uric Acid alone is responsible for this alleged "disease." I commend this important generalisation to the Suicide Bureau of the Salvation Army.

Turning to the rest of the list, it is news again to learn that cancer arises from such a simple cause. Why, oh why, did we not know this before ? Further, why now should there be any mystery about the treatment of cancer ? Many questions, indeed, occur to one upon thought-

ful consideration of this amazing list. I may recur to some of them further on.

It seems fitting now to state as briefly as may be what autotoxaemia means; and a consideration of it may help to throw a little light upon the *real* (not assumed) causes at work in connection with the list just quoted. Autotoxaemia is this: as an outcome of inevitable, if small, faults in digestion, in intestinal peristalsis, and in metabolism, bye-products are formed of a poisonous nature. In a healthy subject they are excreted as rapidly as formed; a concomitant of any departure from ideal health is the retention in the organism of one or more of these toxins. Certain causes that actively lead to their retention I may mention later on. As a consequence of their retention, the activities of the system proceed under difficulties, more or less; and the outcome of such a state of things is still further retention, it may be to an aggravated degree. Thus a condition of autotoxaemia, or self-poisoning, is brought about. It will be naturally asked, "Is this due to one toxin, or to many?" Dr. Haig, following in the footsteps of his celebrated father, assures us that one factor—namely, Uric Acid—is all-

sufficient. The facts of the case, I need hardly say, are otherwise.

To particularise a little: In addition to Uric Acid and its congeners, we find Oxalic Acid, as Oxalate of Lime, a very potent and, I might add, *the most common basis* of systemic disease in this country, according to my own experience.

The Sulphuric Acid group contributes a particularly virulent set of toxins, known in the Laboratory as the Ethereal Sulphates.

Urea itself, mild and negative as it appears to be from the ordinary chemical point of view, leads to deadly damage when stored up in the tissues.

In diabetes, one of the diseases on the list attributed to Uric Acid poisoning, it is common knowledge that the active toxin is neither the sugar; nor, above all things, Uric Acid; but, in reality, is oxybutyric acid; to the presence of which is due the diabetic coma; and, in severe cases, death.

I think these toxins, the more common ones, are sufficient to go on with. They are all easily identifiable; and, further, can be traced by anyone really conversant with the subject to

their due and efficient respective causes in the system and in the diet.

Needless to say, Dr. Haig's diets, as given in Appendix II., are open to a sufficiently raking criticism when looked at from this point of view. But to go into this aspect of the subject would mean writing a small book; and this present writing, I will ask the reader to kindly bear in mind, I am doing my best to keep within the limit of a criticism.

To sum up the just mentioned toxins in a few words, that of most consequence is the Oxalate of Lime one; and, following this, the Sulphuric Acid. Urea is not so common; and Uric Acid, in my own experience, falls into the subsidiary position of being on occasion attached indifferently to any of the autotoxaemias that are likely to turn up. In anaemia, for instance, the Oxalic Acid and Sulphuric Acid groups generally lie, in varying degree, at the root of the condition. In addition, each of the diseases mentioned above often has an origin that varies with the idiosyncrasy of the patient.

This leads to a further consideration; which is, that the object of treatment should be, not to treat the disease, so much as the patient:

least of all to begin with a cut and dried idea that a particular acid is at the root of all human ills. For instance, it follows that each case requires to be diagnosed and treated on its own merits; and that whilst, truly enough, people naturally drop into classes, every case varies as to its causation from every other; the precise degree of which variation it is the function of accurate diagnosis to establish. Further, the type of autotoxaemia having been ascertained, the direction in which the case under consideration will most suffer is often largely determined by hereditary tendencies: thus, in two persons with a similar history as to dietetic errors, and possessing similar toxins, both as to kind and proportion, as shown by careful analysis, heredity may determine in one a bias in the direction of anaemia plus incipient tuberculosis; and, in the other, of more or less well-established rheumatism. I fail to note in Dr. Haig's book any indication that care is taken to observe the factors that I have just enumerated. This may well be, however, owing to the simple reason that you cannot describe all your methods in a treatise that purports to give a bird's-eye view to the average reader.

At the same time it seems needful to emphasise in every case the ever present need of utilising some such painstaking and accurate scientific method as the threefold analysis carried out for Mr. Eustace Miles in so many hundreds of his cases. I say "in every case" with intention, for it is not only the severe, but often the seemingly simple cases that require most careful diagnosis if the true underlying causes at work are to be ascertained. Seemingly fair or average health often forms a mask, not only for the subject himself but to his adviser, concealing the small deviations from the right path that, left unrecognised and therefore (in their incipience) unchecked, so often lead in time to severe physiological troubles, if not to actual disaster.

Before I leave this part of the subject, there is one form of toxaemia which ought never to be forgotten: and it is that which arises from food adulteration. It is continuous and often by no means light; and, I am convinced, especially in the case of the poorer classes, to whom in respect of feeding the word "reckless" is far too weak to apply, forms a fertile and systematic cause of many of their physiological troubles. This may be seen in hot weather by the effect

of London milk upon the London baby; although the latest information has failed to catalogue Uric Acid as a milk adulterant.

After this preliminary canter we will let our author speak for himself. The first words of the Preface are excellent: —

> *The subject of an ill-chosen diet and its evil effects on the community has been too long shelved by my own profession in this country: its importance has been too little insisted upon to those who depend on us for guidance.*

Comment seems superfluous. "Open confession," etc.

On page 1 the author lays his foundation-stone.

> *I must refer, even here, to the chief fundamental principle laid down in Appendix I., namely, "Take Sufficient Proteid." This cannot be too strongly insisted upon, whatever the diet may consist of. Protein is* the *constituent of food that is absolutely essential for life, and is moreover the only one capable of making blood and tissue and of repairing the daily wear and tear of the body.*

This, of course, is highly satisfactory; and

it is a great pity that "vegetarians" generally do not apparently realise the essential sanity of this position. As Mr. Eustace Miles is constantly reiterating, diet should be balanced; and the only safety for those who drop meat consists in adopting a B.N.F. Diet; in other words, a diet in which the elements that give meat its value should reappear in a purer and more satisfactory form; and not be foolishly eliminated, as happens in the case of the average "vegetarian" who "leaves out the meat and eats the rest." This, the paragraph just quoted, gives practically the keynote of the book; and, therefore, at this point I am compelled once more to join issue with Dr. Haig, not on what he has just laid down, but upon what he omits.

Food, as we know, consists of seven elements—namely, Water, Proteid, Carbohydrate, Fat, Salts; the sixth, a rather complex thing, under which I should place those factors that give the characteristic flavour; and also the ferments. The seventh I omit here as irrelevant to the subject.

Now, the whole way through the book, as far as my observation goes, Dr. Haig has

absolutely omitted any reference to the vital need of the system for organic salts, such as are to be found in vegetables. In Appendix II., giving a series of diets, so many ounces of "vegetables" appear from time to time, it is true. But, in the first place, the amount is inadequate; and, in the next, no word of caution is given as to how the vegetable should be prepared nor what it should consist of. In practice, English cooking disposes at once and for ever of the main virtue of even pounds of vegetables; for the salts, as we all know to our cost, are emptied down the sink by the highly intelligent, County-Council-instructed person who kindly consents to cook for us. Hence, as I have said, a most vital element of our daily diet is ignored; and, I sincerely trust, for the benefit of all sufferers, that Dr. Haig will remedy this glaring defect in his next edition. Should you ask for evidence of the value of vegetable salts to us, and what happens when we do not get them, look at the teeth of the average London child, and glance at the list of Dental Institutions in the London Directory. Even a Directory can be eloquent if questioned with intelligence.

The next point that I would call attention

to is the sixth item in the food constituent catalogue; and that is the need for flavour. Dr. Haig points out, and quite truly, that in due time the palate learns to appreciate most keenly the delicate flavours of what at first were regarded as insipid foods. This I know from personal experience to be perfectly true. But the practical point is this: it is not enough to promise a patient that in so many months or years he shall enjoy his food; you have to take him through the unhappy transition stage from sickness to health; and in this stage the palate forms a most powerful agent to make or mar; especially so when we consider what Nature's object may be in attaching a flavour to each food. As I understand the matter, such agent is in the nature of a hormone; that is to say, when food *possessing the flavour which the palate can appreciate* is taken into the mouth, automatically the system secretes the correct saliva; and, further, probably at once commences the preparation of the corresponding modification of, for instance, the pancreatic juice to digest precisely that food. Failing an adequate stimulus in the shape of appropriate flavour, the working of the delicate and extraordinary

mechanism just described falls through: result, at the best, indifferent digestion.

I consider, therefore, that any scheme of diet, but more especially the one arranged for the "transition" stage, should take very carefully into account all the factors that, within our knowledge, contribute towards the successful issue of that delicate and difficult matter—perfect digestion.

On page 5, Dr. Haig says some excellent things about the effect of tea. He points out that:

> *The treachery of tea lies in the fact that it makes people feel better at the moment, for it is a powerful stimulant, and therefore they think from their feelings that it must be doing them good. The insidious depression next morning or during other times of the day is not attributed to the tea at all, because taking more drives the depression away, yet the tea is the true cause of that depression, and must be taken ever stronger and stronger in order to drive the increasing depression away. Tea-drinking is just like drug-taking in fact, and has just as terrible and fatal results.*

I personally hold the view that the so-called teetotal reform of the nation has had a most pernicious effect upon its health and well-being. Betwixt the devil and the deep sea there may perhaps be but little choice; but, although I can swim, I think I prefer the devil. To put it another way, if a man markedly transgresses in regard to alcohol the effect is immediately apparent; and it is relatively simple to remedy an *apparent* trouble, one that stares you in the face. If, on the contrary, he or she—it is generally she—becomes a tea-inebriate, so far from being shocked, we tend to admire such a nice, cosy, sociable habit as that of taking tea with one another; and the ultimate consequences are apt to escape our recognition entirely. According to Dr. Haig, these consequences are the direct outcome of the purin-contents of the tea. Here, again, I grieve to disagree with him. Take, for instance, his description on page 7 of the effect of tea upon the poorer classes of Wales and Scotland, and parts of Ireland; also, I might add, of Cornwall:

> *Take the sparsely-populated parts of the United Kingdom, such as the mountainous portions of Wales and Scotland, and parts*

of Ireland. The people in these districts are poor and cannot as a rule afford meat more than once a week (after the weekly market-day) even if as often as this. Such people are practically forced by circumstances to be vegetarians and really are so except for the one day a week when they have meat, yet they are often literally crippled with rheumatism. How can this be accounted for? Surely that one meat meal a week can hardly be held accountable for the whole of these crippled joints, seeing the active, out-door life these people lead!! If you enquire into the matter more closely you will find that tea is the root of the evil. They take it often and strong; I have seen the huge teapot simmering on the hob all day long, while fresh tea is every now and then added to the noisome brew. This is where the uric acid crippling those joints is obtained from. It is very difficult to get such people to give up their tea, for it has obtained an almost unbreakable hold over them, similar to the hold that opium has over the opium-smoker, and very nearly as deadly a hold too, except that its effects are slower. Knock off the tea

slowly and by degrees give it up altogether, and the joints, if not entirely disorganised, will begin to improve, slowly but surely. The other etiological factor in these cases is exposure to cold. The increase in uric acid diseases in the Highlands since the substitution of tea for milk has been very marked, yet the factor of exposure to cold has always been present both before the tea was begun and afterwards, so it must be the tea that has done the mischief.

Here, we find that he attributes their rheumatism to Uric Acid derived directly from the tea. I am willing to concede all that he says in this direction; and yet am bound, as a result of my own experience, to maintain that this explanation covers the ground to such a small extent as to be practically no explanation at all. If this be so, what is the cause of the rheumatism? The usual view of rheumatism is that it is a purely Uric Acid disease: such view, of course, is necessarily held in Dr. Haig's book. Personally, I think this is an error; in fact, I think I may say that I know it is. Rheumatism is a disease, which is the outcome, or manifestation, or expression of an *acid condition* of the system; and that acid condition may be, and

generally is, the outcome of the formation of more than one acid. In certain cases, probably due to hereditary predisposition, Uric Acid is the predominant factor; in other cases by no means so. There is a whole series of acids formed in the system, many of which are broken down ultimately into carbonic acid; others of which escape this process. Personally, I have found, as a result of microscopic examination of the blood and analysis of the excreta in more cases than one cares to think of, that a fertile cause, amongst others, of rheumatism, is the formation of oxalic acid, previously referred to. Rheumatism, in short, is a condition in which similar symptoms may point to much more than one source of origin, and so far from meat and tea (and coffee) possessing the monopoly of its causation, other foods—notably the huge class of the carbo-hydrates—have far, far more to do with it than is supposed by either the average layman or the average medico.

Now, if the acids spoken of were excreted, there would be no rheumatism; they are retained and rheumatism results. Without going into elaborate discussion of the causes of retention, I may say that one of the most potent agents that

interfere with the excretion, from the tissues, of waste matters of all kinds, including, as a small incidental, Uric Acid—one of the most potent of such agents is tea; especially, of course, as prepared by the lower classes, the completeness of whose ignorance in matters of diet has almost attained to the dignity of the rank of an exact science. The effect of tea, as Dr. Haig truly points out, is to produce a temporary stimulation by clearing the blood; and the clearance is in the wrong direction—instead of sending the waste matters towards the kidneys, their proper channel of elimination, they are driven back into the tissues. In this kind of thing is the beginning of rheumatism and a good many other troubles which people at large never dream of connecting with tea-drinking. I can, therefore, whilst only to a feeble extent agreeing with Dr. Haig as to reasons, heartily agree with him in his condemnation of the national habit. Could we condescend to learn from the Chinese what tea really is, and how to prepare it, and when to take it, we might, no doubt, do very well; but this possibility, I am afraid, is, to say the least of it, extremely remote.

Consider, for instance, the following :

A glass of beer is very much better for a man and less harmful than a cup of tea ; I do not advise either, but of the two evils take the lesser one ; whisky is better than beer, which is very acid and contains some uric acid in addition. I am afraid this will hardly meet with the approval of the ardent temperance reformer, but it is none the less true. This must not be taken as in any way recommending beer or whisky as a drink, far from it. All I maintain is that tea is much more injurious than spirits or beer, and when tea is recommended as a substitute for spirits or beer, it is a case of out of the frying-pan into the fire. A few years on the Uric-Acid-Free Diet will remove the crave for both tea and alcohol.

And, I might add, in many instances a few months on the diet that Mr. Miles recommends will produce the same result.

Much the same applies to coffee :

A cup of coffee may be considered equally poisonous with a cup of tea, for although weight for weight tea is more poisonous than coffee, yet the coffee in this country is usually

taken stronger than tea. A cup of cocoa or chocolate is not so poisonous as a cup of tea.

The following remarks are perfectly true, and must reflect the feelings of most people who have to deal with the subject:

To attempt to convince a vegetarian of the error of his ways is a very much more difficult task than a similar effort with the meat-eater, for the vegetarian seems to be obsessed with the idea that because his diet involves no cruelty to animals, it must be perfect. When you suggest to him that his Vegetarian Diet is not all that he quite thinks it to be, he either treats your remark as a joke, or usually takes it as a personal insult. From my own experience the enthusiastic vegetarian is a difficult person to deal with, especially when you find fault with his food. This is the reason why so many vegetarians suffer from gout, rheumatism, cancer, and the whole host of uric-acid diseases, and when their diet is altered, with the exclusion of tea, the pulses, etc., these troubles slowly but surely clear up.

Apropos of cancer (labelled as a Uric-Acid disease) it would be interesting to know how

many such cases are actually *cured* as the result of such alteration of their former diet in the direction referred to above.

I may mention here another point that strikes me as being of some consequence in Dr. Haig's book; and that is the very restricted use he makes of water as a beverage. The amount of water that may be required by a healthy person must vary, I think, within wide limits; but that is not the important matter: when a patient whose system is filled up with waste matter comes for treatment, the pressing question at once arises, How best and with least pain and danger to himself to eliminate such stored-up waste matter? Now, Nature gives an answer to this question, an answer which I think is very convincing. She shows clearly that *her* method is to pass out waste matter, so far as the kidneys are concerned, *in solution;* and that one reason, incidentally, why in many instances waste matter is retained in the system is that the person concerned has systematically, for some reason or the other, taken too little soft water; and, *therefore*, his system had no choice but to store up what it could not get rid of in the usual legitimate

manner. In fact, this shortage of soft water is, in my opinion, a concomitant of stone formation; and, in any event, is a fertile cause of undue wear and tear being thrown on the delicate mechanism of the kidneys. Our toxaemic person, therefore, must, if he is to get really well, be supplied with a sufficiency of water; and, if necessary, of a suitable alkali or base to assist the neutralisation of acids in the system, and their conversion into soluble salts. None of the statements I have just made is supposition or theory. I have simply put down (in a few words) the actual results of many years of observation and of actual analysis week by week, or even day by day, of the urine of people who have gone through really adequate treatment. It has been a matter of deep interest to observe the changes: the patient, for instance, may begin with rather heavily laden urine, high specific gravity, and a tendency to precipitate a sediment. In the early stages of his treatment following from a revised diet and a sufficiency of water, the urine clears up, the specific gravity goes down, and one would begin to think that he was getting well. This, however, is far from the case: with a continuation of treatment,

and adequate water supply, together with the administration of the chemical bases required by the system, the long-choked tissues begin at length to disgorge their poisons; and then the urine commences to re-assume its first described—or even a worse—appearance. This stage may continue for some time, and is generally a trying one for the patient and all concerned; but, in the end, the results more than justify the trouble. But, and this is the point to which I wish to call Dr. Haig's attention, the things to be found in the urine by careful, systematic examination during the time the patient is passing through this depressing stage of throwing out the accumulations, it may be of years, of waste matter, are, if I may use a vulgar phrase, an eye-opener; and a moderate amount alone of experience of this sort enables one to "place" Uric Acid in relation to the other far more important toxins that are forced upon one's attention. How simple the whole thing would be if merely Uric Acid alone had to be considered!

On page 19 is an interesting statement to the effect that:

From the point of view of the Uric-Acid

Free Diet eggs consist of the white only, the yolk containing uric acid.

There seems here to be some discrepancy of opinion between Dr. Haig on the one hand and Nature on the other, as to how things ought to be done. From Nature's point of view it appears to be proper to handicap every fowl by contaminating its beginnings with Uric Acid. Some one ought to speak to Nature about this. My own idea about the yolks of eggs is that they are sometimes inadvisable on account of the sulphur contained therein, with the result, in many people, of the undue formation of ethereal sulphates ; which, in excess, may prove excessively injurious to the processes of the system, constituting, in fact, one of the forms of autotoxæmia already mentioned. Likewise, of the gas known as sulphuretted hydrogen, in the intestine. This possesses a distinctly toxic influence, as Herter points out, adversely affecting the nervous system. So definite and, as one may say, so objective are the effects of sulphuretted hydrogen upon the system that in the case of the blood it can be shown spectroscopically. On treating normal blood with sulphuretted hydrogen, a marked absorption band

appears in the red end of the spectrum, which *persists* and cannot be eliminated by subsequent aeration of the blood so treated. In brief, the effect of sulphuretted hydrogen is, amongst other things, to produce definite deterioration of the blood cells, as shown by the permanent modification, effected through its agency, of the absorption spectrum of oxyhæmoglobin. Hence, we may agree as to practice; but must differ on this case widely as to the theory.*

On page 22 Dr. Haig, probably inadvertently, has committed himself to one of those sweeping statements which all who have the cause of Food Reform at heart must deprecate. He says:

> *Nuts are the natural food of man, yet civilisation has depraved him to such an extent that he cannot live on his natural food. The Ideal Diet consists of nuts and fruit, yet scarcely a man can now be found who is able to live on it.*

The inference to be drawn here is that men, having trained their digestions in the way they should go, must either live around their own nut-trees, or cultivate them especially; or

* Consult Appendix III. for a reprint of an article from the *Lancet*, entitled, "The Easter Egg in Modern Times."

arrange to have nuts grown on a large scale and transported to our great cities. I cannot imagine that primitive man, whether he be little removed from the beast, or whether he be a highly civilised being, can have found his natural food solely in nuts; or in nuts with fruit added. Man, as far as we know, has existed in all latitudes and within the most rigorous climatic conditions, such as hold good at the Poles. He is still *Man*. The Eskimo, for instance, as described by educated and sympathetic observers, not by the rude and ignorant sailors whose stories form the basis of much of our early school-books in this connection, is a man of knowledge, of humour, of ability, and of great perseverance. *He* does not live on nuts, and could not if he tried! The great Nomadic tribes who have lived and still live on the vast Steppes and open spaces of the earth, do not live on nuts. *They* could not if they tried! The great hunting peoples of the past obviously, even with their free open-air life, could not live on nuts; or why did they hunt? I might proceed further, but I think the onus lies on our author to prove his point. I note in this connection, that for our satisfaction he

gives at the end of the book, on page 216, the "Ideal Diet." I herewith quote it:

The Ideal Diet.

9 *oz. nuts*	.. .. ..	612 *grs.*
16 *oz. dried fruit*	.. .. ..	256 „
50 *oz. fresh fruit*	.. .. ..	400 „
		1268 *grs. of proteid.*

I can only add to this that I will personally guarantee to any ordinary man who lives a fairly rational life in town, or even in the country, and who restricts himself to the above Ideal Diet, that he shall have in a short time enough rheumatism to last him the rest of his life.

I note that in discussing the question of Urea the author says, on page 61, that it is *obvious that all the cases of low urea are* ipso facto *causes of mal-nutrition.* I think this statement might be true if the word "most" were substituted for the word "all." As observed earlier in this review, one of the autotoxæmias is consequent upon the retention of urea; and, in such cases, upon adequate treatment being given, the amount of urea that the system dislodges can only be called enormous. In other

words, there has been adequate formation of urea in the past, but insufficient excretion, leading naturally to the retention spoken of. In my own experience, whenever I find the urea percentage below what it should be in that particular case, I endeavour to find out the cause; and I have no doubt that, in a small proportion of cases, the cause is as indicated—retention. The reasons for such retention I do not propose to enter into here; but I think it desirable to call attention to the necessity of taking urea retention into account, in judging what interpretation to place upon a low urea percentage.

I have great pleasure in agreeing with the author in his stricture upon Professor Chittenden's low proteid theory. He says:

> *While on the subject of under-feeding I will just say a few words about Professor Chittenden's low proteid theory. In my own experience I have never yet seen a person able to live on Professor Chittenden's proteid standard without sooner or later breaking down in health. I quite grant that for two to three years or more a person can live on a low proteid diet with apparent benefit to health in every way,*

but sooner or later) it may not be even for some five or six years) the breakdown is bound to occur. I have seen a person lose his life simply from trying to live too long a period on too low a standard of proteid. I have often come across people who claim to have lived on a low proteid diet for some considerable time; but usually on examining their diet you discover that they are taking more proteid than they give themselves credit for.

I think that Professor Chittenden's views represent a natural reaction from the exaggerated ideas that formerly held sway in relation to the proper nitrogen intake. As in most other things, the happy mean is the thing to seek for.

On page 68 and following pages the author has some very sensible things to say about the necessity for avoiding undue exposure to cold. One is reminded very much of Herbert Spencer's writings about the treatment of children as it came within the scope of *his* experience. At the same time, it seems to me that our author doth protest too much. One is led to the inference that a person living on the Uric-Acid-Free Diet in its rigorous form would tend to be unduly sensitive to the effects of cold. It seems to

me that a really healthy person, whilst fully aware of feeling heat and cold, is not materially affected by them; but, on the contrary, is capable of enjoying either; and does not need, therefore, to take that care, in regard to his clothing, which Dr. Haig seems to lay so much stress upon. Still, it is well to be on the safe side; and the townsman, at least, does well to lean in the direction of over-clothing rather than of under-clothing.

Here is a piece of undiluted wisdom which I quote with much joy:

> *Every child in the schools should be taught something about food, and should learn the protein values of the common foodstuffs in use, very much as he learns arithmetic nowadays. Young adults should be taught to discriminate between foods and stimulants; also which foods are best for the wits or for the muscles, or those best for the 'wind' and endurance, etc. If this were done, such crass ignorance as that which maintains that skim milk is worthless as food, the superstition that beef is more nourishing than cheese, and all similar nonsense, could no longer flourish in the way it does at the present day. The poor would then know how to spend their money to the best*

advantage, instead of on such poisonous stimulants as tea.

I might add that the better classes, also, would not find themselves in the quandary that they regrettably do at present. So many people desire to improve their health along the lines of diet and exercise; and yet find difficulty in getting adequate advice. This, therefore, brings about a state of things which the author refers to as follows:

This brings me to a rather delicate point—namely, that people without any vestige of physiological education set themselves up as diet specialists, advising others what to do, how to do it, and even treating cases of disease. Such people too frequently cause others to go astray, running them into dangers which under proper guidance should have been avoided, and for which diet is only too often unjustly blamed, bringing undeserved—discredit on the cause of genuine Food Reform. These self-constituted and unqualified guides are dangerous and should be avoided.

The unsophisticated reader will naturally say, "Why not go to the Doctor?" Let us see what our author replies to such a question:

> *That such a state of affairs should exist with regard to diet is, I think, very much the fault of the medical profession. Practically no attention is paid to food in the curriculum of medical education, so no wonder the grossest ignorance prevails on the subject of food; and this is a state of affairs that is a direct encouragement to quacks.*

He further adds :

> *So instruction in diet must remain the monopoly of the doctors, who at present, unfortunately for all,* **pay very little attention to the question of feeding.** *Obviously it is impossible to cure diseases due to food poisoning so long as the cause is permitted to remain in action.*

The enquirer desirous of Right Diet thus finds himself in a slightly awkward position : he is warned against pseudo-specialists, and advised to consult a doctor ; and in the same breath is informed that doctors as a profession practically know nothing about the subject.

I have heard a precisely similar opinion about doctors expressed by many other people, especially after following their medical advisers' advice

upon diet. It is cheering, I must say, to find this remarkable coincidence of lay and professional opinion. Usually, such harmony seems unattainable. Still we are left in this position: what is the unfortunate public to do? It desires urgently to find relief from its dietetic troubles; it has learnt, probably by painful experience, the undesirability of amateur experiments in this direction; it has tried its doctors, and generally found them wanting; and so it is reduced to go to those labelled "Quacks." I do not know why they are labelled "Quacks," and have never yet been told, although the hope that I may be, still flickers on in my bosom. Those that I have met have been at least sincere, enthusiastic, and by no means ignorant of such elementary essentials as Physiology and Anatomy. In fact, no intelligent man with trouble in his "tummy" is quite ignorant of these things; on the contrary, he often knows far too much for his peace of mind; and, as a consequence, puts questions to his friends, lay and medical, to which he can get no satisfactory answer from either.

I think that it would be well for the profession, or those members of it that hold the views

enunciated by our author, to regard as a fallacy the theory that the "outsider" knows nothing about anatomy, physiology, materia medica, organic chemistry, and so on and so forth. The outsider (that is, the non-professional man) may and often does have every inducement to master thoroughly all the essentials of these sciences; and to combine them in such a way as to make his system both a practical and business success.

It is to such a man—labelled "Quack"—that the public, often in the last resort, turns, and turns usually with success. Neither does he deserve the epithet that an otherwise respected and deserving profession often hurls at him. Forced into a consideration of the whole question of the relation of diet to disease, it may be in his early years, as a direct consequence of medical incompetence and sheer bungling in connection with his own dietetic and other troubles, thrown upon his own resources, on occasion it may be having literally to fight with his own hands for his life, in any case for his health, he is pushed by the rough and ready fist of Nature into a corner; where, in time, a little light begins to dawn for him. Entirely through his own exertions he painfully learns what are, *for him*, the

essentials of health. He then commits the deadly "professional" sin of attempting to help others whom he finds in a similar position. The essence of his sin lies in this: not that he is incompetent, but that he is devoid of certain other men's certificates to his competence; certificates only awarded by those who, according to our author's showing, possess at best but rudimentary knowledge of the subject. Our friend is now a Quack, a Quack with a capital "Q." He has learnt by the hard path of personal experience what mistakes to avoid; and, to some extent, the right things to do; and, as circumstances decree, he either goes into some line of business and ceases his Quackery; or he continues to benefit others for a financial consideration, even as some doctors have been known to do; and he continues his fraudulent and criminal career of Quackery. That is, not having paper and parchment qualifications, but merely knowing his subject thoroughly, and how to cure sick people, he sinks thus lower and lower, helping every day those who would otherwise (I speak from knowledge) abandon all hope of ever regaining their lost health. Truly such a man is a debased

criminal who well deserves the epithet of "Quack. May he continue to deserve it!

Here is a very good point, on page 128, that all mothers, actual or potential, ought to consider:

> *There is no necessity for a child to be too fat—in fact the child that is too fat is usually diseased. The pictures of fat children that one sees as advertisements of different baby foods are to the discerning eye practically always pictures of disease; nearly every one of these children shows obvious signs of rickets. Yet the public think that fat and good health are synonymous terms in a child. Monstrosities, such as the recent Fat Boy of Peckham, are nothing but masses of obvious disease.*

On page 149 there is a brief sentence that I quote, *All unripe fruit should of course be cooked*; and, might I add, be at once thrown away. Unripe fruit is no fit food for anyone, and to cook it is merely to attempt to disguise the evil. The average person, of course, adds sugar, generally in large quantity, to balance the acidity of this cooked unripe fruit; and thereby lays a very efficient foundation-stone for future

rheumatic troubles. I need hardly say that rheumatism can progress very efficiently indeed if only supported by copious supplies of a carbohydrate type.

A propos of this, there stands an injunction on page 185, as one of a series of very useful remarks It says :

> *Be sparing in your use of cane sugar, especially if gouty or rheumatic, as it is very acid.*

It is news to learn that sugar *is* acid. In its early stage in, for instance, unripe fruit, it may have existed as acid ; and at a subsequent stage of mal-digestion, it not only may, but does, become acid ; but it is not acid in itself.

It is in this possibility—nay, certainty in so many cases—of acid *formation* as a direct consequence of transgressing the limit of sugar-assimilation that the crux of our author's injunction really lies.

But, *why* this warning to gouty and rheumatic people, as regards sugar, if uric acid is the all-sufficient and all-explanatory cause of our many woes, physiological and otherwise ? Or is uric acid a characteristically nitrogenous body, sup-

posed to originate by what we may perhaps term the 'Newer Alchemy' from C_{12} H_{22} O_{11} ? It would be of interest to have some light thrown upon this dark matter. Of course, I quite agree with Dr. Haig's injunction, as is obvious. But—as in certain other matters—my reasoning, and the inferences that may be drawn therefrom, proceed on a somewhat different line from his own.

Before quitting the matter of acidosis, might I refer to one further form that our author's devotion to his own pet bogey has presumably precluded him from mentioning ? This is hydrochloric acidosis, manifesting as hyperchlorhydria, and *primarily* due not to endogenous processes, but to the ingestion of an undue amount of chlorine, as common salt, or as chlorides of bases—other than sodium. For reasons that considerations of space forbid adequate discussion of, and that I therefore omit, the ingested Cl becomes robbed of its appropriate base, and the worried system, intolerant of so much potential H Cl that it cannot excrete via the kidneys, attempts to throw it off at *the* natural locus of such an acid—viz., the stomach. Both remedy and rule for future guidance must be obvious. It seems

to me that this form of acidosis is not unworthy of mention.

Finally, in concluding this very brief and imperfect review, and in which I have left a whole host of points of interest untouched, I admit having given expression here and there to a few opinions of slight divergence from the author's. At the same time, I find myself, as I have endeavoured to indicate, in cordial agreement with much that he has said, and feel particularly pleased at the free statement he has given to the need of adequate proteid supply. I have not attempted any details of criticism of the many elaborate and evidently carefully thought-out tables of diet in the Appendix, as to do so would be to transgress the lines I laid down for myself in writing the foregoing. I leave such criticism to those whose speciality it may be to elaborate diets for different cases. My own experience has been that each case must be a law to itself; and while a series of cut-and-dried diets is useful for reference, there must always be many factors to modify them in recommending or applying any particular diet to any particular case.

Further, I am very glad to note that Dr. Haig has courageously taken his stand with those who protest, too often to deaf ears, against the present craze—one can call it by no better name—that attributes the causation of so much disease to bacterial activity. I do not know his precise views upon this point; but he sufficiently indicates the attitude that all sane Food Reformers (I think) take up in regard to this matter, by the following words, with which quotation I conclude this review upon his very interesting and useful book.

> *The medical profession at present is inclined to attribute all disease to bacteria or bacilli of one kind or another, whereas in most cases were a little attention paid to the state of the circulation, many conditions now assigned to organisms would be found to be due to disordered circulation. Treat the circulation and pay no attention to the organism and the trouble will clear up.*
>
> *After all, organisms depend on the soil and surroundings for their welfare and propagation, and if rather more attention were paid to the improvement of the condition of the soil and less to the actual organisms*

themselves, many of the "bacteria-caused diseases" would disappear. This fact is well demonstrated by the fact that many diseases caused by organisms affecting the meat-eater cannot touch the Uric-Acid-Free feeder, simply and solely because the soil in the latter case is unfavourable to the growth of organisms. For the organism is simply unable to exist in a free circulation, whereas the urate-laden tissues and the clogged and inefficient circulation of the meat-eater provide an excellent soil for the growth of organisms. The fact that one person will take a cold and another will not, although exposed to the same degree of infection, shows pretty clearly that there is another factor besides the micrococcus of catarrh to be considered in the causation of the common cold.

Pathological organisms are the fashionable fad of the moment, just as sour-milk treatment was a few years back. These fads are really like so many will-o'-the-wisps, leading nowhere and giving no results of permanent good, and finally landing one in a bog of useless bewilderment, created by the treatment of symptoms in place of causes.

XI.—THE FETISH

ACCORDING to Dixon Mann, "the sources from which Uric Acid is derived are twofold: one portion—the endogenous—is formed in the course of tissue metabolism, chiefly from the nuclein of the tissues, and, according to Burian, from free purin-bases which are present in the muscles; the other portion—the exogenous—is derived from the nucleo-protein and purins of food, and from the xanthin and hypoxanthin of flesh-meat. There is also the possibility that some Uric Acid may be formed synthetically in the organism." I am greatly impressed by that word "possibility." According to the view forced upon me by the results of my own study of the subject, Uric Acid, in the human subject—apart from those varying quantities ingested from food, the fate of which appears to be uncertain—emerges into existence in the organism largely as a consequence of a slight failure in the metabolism of the nitrogenous group of food stuffs.

The precise cause, or causes, of such failure have not as yet been placed on record. My own view is that the origin of the phenomenon is really somewhat complex, and is very much on all fours with that which, according to Herter's views, lies behind the formation, and excretion in the urine, of *cystin*—another body resulting on occasion from partial failure, again, of nitrogenous metabolism. In few words, as a consequence of more or less indigestion, there is formed in the tract, from the food, a toxin which, being absorbed, disturbs the subsequent transformation of the food group from which it was derived. In the case of cystinuria I have found the toxin to be represented in the urine by a form of indigo-blue, and in the digestive tract, therefore, by its precursor there, indol. In the case of Uric Acid the chromogen corresponding to that accompanying cystinuria may possibly be also indigo-blue, of another type.

Under normal—or, rather, under healthy circumstances—Uric Acid, like other waste matter, is excreted as fast, or nearly as fast, as it is formed. I qualify by "nearly," because, although a certain minimum of Uric Acid is continuously excreted, the balance tends to

appear in the urine in a somewhat irregular manner. Nature, in fact, appears to favour in this instance the method known as a "storm," and so Uric Acid storms become a familiar feature to the student, and even to the layman. Minor storms, as in a healthy person, produce no unpleasant response in the consciousness, but those of the major type are often associated with what are termed "Uric Acid headaches." This has become by now a cant phrase, and the only justification for it that I know of consists in the fact that on rare occasions it happens to be true. As to the *other* occasions, I may say, in brief, that careful analysis reveals ample chemical causation for headaches—and worse than headaches—as a concomitant of the excess of Uric Acid—in such urines. I cannot help deeply regretting, both for the credit of the medical profession, and for the sake, especially, of the suffering public, that this simple fact was not discovered years ago, as it should have been. It would then be known by now that such "chemical causation" happens not only as a concomitant of Uric Acid, but in a large proportion of cases in its relative absence. Viewed in this light, the God-of-Uric-Acid begins to shrink into insignificance, for

towering behind and above him we may sense a pathological Presence immeasurably greater than he.

Let us, whilst we can, ignore that Presence, and describe the more familiar features of the God-of-Uric-Acid, fated to dwindle at last into a mere common Fetish.

Uric Acid, when present in excess in the blood, is demonstrable by its action upon the red cells, when the living fluid is examined microscopically. Such appearances cease to manifest when only the normal amount is being excreted, showing at once the power of toleration of the blood in this respect. Uric Acid has never, I believe, been observed in secretions of the lungs nor bronchial tubes, nor per rectum (except ready-formed in food waste) : rarely on the skin, and then—curiously enough—in relatively great proportion. At least, such has been my experience. *The* port of exit for Uric Acid is the kidneys, via the urine. How is it accomplished ?

The normal method of excretion of Uric Acid is (1) in extremely minute quantity *as* Uric Acid, in solution in the urine in (seemingly) loose combination with all or part of the urinary pigment—urochrome. Hence—as a fairly general

rule—the strength of colour of the urine and the Uric Acid percentage rise and fall together. Here we meet with an occasional phenomenon of some incidental importance—viz., the spontaneous precipitation of small, unpigmented crystals of pure Uric Acid upon the cooling of the excreted urine to room temperature. Examined under a low power of the microscope, with a polariser and selenite stage as adjuncts, the crystals are observed to polarise brilliantly in a whole range of beautiful colours—demonstrating incidentally the total absence of all colloidal admixture. Their formation in the cooled urine would appear to be an effect not involving any complexities, being in harmony with the broad rule that elements in solution (as well as fluid bodies themselves) tend to solidify as the temperature drops.

But it becomes obvious why a person whose blood happens to be overloaded with Uric Acid suffers grief and pain after standing in a draught. Remember, however, that various other quite different acids or their salts circulating in the system are subject to the same general law and produce similar results, and that it is not correct, even if it be fashionable—to label *them* Uric Acid.

Now the next—and more abundant method of excretion of Uric Acid—is (2) in combination with one or more "bases," severally, to form "salts." The chief bases of the system, in this connection, are five—viz., soda, potash, ammonia, lime, and magnesia. The last two are, for practical purposes, negligible; with the first three Uric Acid readily forms, severally, soluble salts. They are passed in solution, but tend, on cooling, to precipitate rapidly in fine amorphous granules, pigmented in a manner characteristic of the base concerned. They readily re-dissolve on the warming of the urine containing them. But here, again, the caution about draughts applies. I will return to this matter of Uric Acid salts later.

There seems to be no special preference on the part of Nature for any one of the bases mentioned over any other. If the system has soda to spare, then out comes urate of soda; if potash, then urate of potash; and so forth. In short, with a sufficiency of a base, or bases, and of water to keep their Uric Acid combinations in solution, the system gets rid of its Uric Acid waste with remarkable ease. This catholicity of Uric Acid, as regards choice of bases, enormously accelerates

its excretion, and is an important fact to bear in mind.

Come we now to method (3) of excreting Uric Acid: and a painful and wrongful one, too. This is where it appears in the form of orange-brown crystals, of endless variety in shape, and differing greatly in size. Some of these are often referred to as "cayenne-pepper crystals"—a not inappropriate name! Curiously enough, this idiosyncrasy of self-pigmenting—the pigment being not inherent, but drawn from external sources—belongs to Uric Acid alone, no other crystalline body of common occurrence in the urine being distinctively coloured. Many of these crystals are very large, relatively, being easily seen and examined by the naked eye. Under the microscope, using the polariser and selenite, one feature characterises them all, in addition to their colouring, whatever their shape or size—their inability to polarise brilliantly; in some cases, a total incapacity to polarise at all. And the reason for this is significant.

All crystals grow from nucleus to maximum size by a process of accretion, or building-on, the material being attracted from the surrounding mother-solution. This requires certain con-

ditions, and takes time. During the process, events not included in the crystalline scheme-of-things may, and often do, occur. In the case of Uric Acid, and of other crystalline matter also, found in the human system, the first effect of a crystal that has exceeded the speed-limit—I mean the *space*-limit—is to irritate its living protoplasmic environment, owing to the fact that crystals usually have sharp corners—and your eye will express for you the consensus of bodily opinion on this subject if you insert, carefully, a fraction of sharp coke in it. The cells next to or surrounding the crystal do what your eye does, protest and *react*. The crystal goes on slowly growing—nothing can hinder this whilst fresh material of its own sort continues to be supplied to it, and concurrently maintains and increases its pressure, indifferent to the irritated cells around it. These, reacting, secrete mucus: a protective instinct which does actually bring about a modified form of protection. For the crystal, as it grows, includes within its own structure a portion of this mucus, thus modifying its form and tending to obliterate its angularity. And the grateful cells murmur, "For this relief much thanks."

Such is the origin of the non-polarising type of crystal, known as the colloidal. Interwoven with its structure is a complex of mucinous and possibly other proteid-containing substances, with the addition, in the case of Uric Acid, of colouring matter abstracted from the urine which washes over it. The reality of this colloid skeleton, as it may be termed, we can demonstrate as well as infer, by dissolving away the acid, the " skeleton " being left. I published a photo-micrograph of the colloid skeleton of a Uric Acid crystal some time ago, to illustrate this point.

The effect of all this tends, however, to an ultimate misfortune in many cases. For whether the crystals, Uric Acid or otherwise, be precipitated originally in the kidneys, the ureter, or the bladder, they not only grow, but, owing to their colloid nature and consequently somewhat adhesive surface, begin to *stick together*.

These little nodules or groups constitute, each of them, a nucleus of a potential stone. The kidneys, of course, make strong expulsive movements into the ureters, and the ureters into the bladder, and this in its turn via the urethra into the outer world. Sometimes, unfortunately, all this fails, and the stone stays behind, increasing

with proportionate rapidity as its *surface* enlarges. Further, the stone is impartial. It may begin as, say, Uric Acid; then a layer of, it may be, Calcium Oxalate is added; then a layer of something else, returning perhaps to Uric Acid. Hence these tears!

Now for a natural question: Why should Uric Acid be excreted (or fail to be, as the case may be) in this extremely unpleasant manner? Why not get rid of all Uric Acid according to methods (1) or (2)?

Well, the answer is that such was Nature's original intention. But mankind (both sexes) being "mostly fools," has, as in so many other instances, badly thwarted her. How? Thus:

Protoplasm, the living stuff of which the body is mainly composed, is unable to function properly—as a broad rule—in the presence of a free acid. And many acids are constantly evolved in the system as a consequence of the incessant metabolic activities. Now you cannot "magic" an acid out of material existence; but if you combine it with what is known as a "base," the result is known technically as a "salt," and your acid *qua* acid ceases to exist and to be a nuisance any longer.

Here is a simple example :—

HCl	+	NaHO	=	NaCl	+	H_2O
(Hydrochloric Acid.)		(Caustic Soda.)		(Common Salt.)		(Water)

It becomes at once evident that a constant and pressing need of the system is a supply of bases to neutralise its acids. Several of these bases were enumerated a short way back. They may be ingested as elements of the food itself, or in the chemical form (here special knowledge is required), or, in the case of ammonia, may be manufactured out of the food-stuff itself, within the system.

For the latter purpose *proteid* is required, and it seems to be one of the special functions of this type of food to furnish ammonia for the rectification of the disturbances of the base-balance brought about by the acids resulting from defective metabolism of the carbohydrate food-group. Such a function amply compensates for the minute moiety of Uric Acid that may, adventitiously, be formed from the proteid itself during the process ! I may remark here that in my own experience of the subject—a fairly lengthy one—I have found that a *pure* proteid diet does not result in excessive Uric Acid formation, and in any case carries with it its own antidote in the shape

of an ample supply of potential ammonia; *but* (much virtue in a "but"!) where even a moderate amount of proteid is taken in conjunction with the wrong type of carbohydrate (an "incompatible," in short) at the same meal, *then* digestion is upset, fermentation occurs, injurious by-products are formed and absorbed, metabolism suffers, Uric Acid is brought into being, and—kindly note—*other* acids similarly.

This sort of thing easily cancels out the ammonia quantum that may be anticipated from the proteid supplied under such circumstances, leaving us where we were as regards our base-balance—that is, a bit behind. Thus we may now easily perceive something of the answer to our original question as to how it is that we thwart Nature's scheme for the safe and easy elimination of our Uric Acid. We either fail to ingest sufficient bases—a very common fault; or we mix our food injudiciously and manufacture an inordinate amount of acid, using up in the process all our base reserve, or a little over; this is a still commoner fault, and is labelled *acidosis*. Also, we omit fluid—pure water—from our scheme; so, even when we do actually form our salts, we cannot excrete them, for want of fluid to

carry them out in solution. Thus we get into rather a hole, and our Uric Acid crystallises out of solution, both *in* the system, and what is, virtually, outside it—*i.e.*, in the kidneys, and possibly other parts of the urinary tract. Here, then, we have worked round once more to the little misfortune that we started discussing a page or so back: the small, but momentous, beginnings of possible stone formation, originating from method (3). And we see that our remedy is at least threefold: we must take sufficient pure water (in the right way and at the right times), we must feed sensibly (both as to quantity and kind), and we must keep our base-balance as it should be (wherein a little expert advice may be useful). "Base-balance" is a convenient term I here use to signify the total of bases available for neutralisation of those acids, of exogenous or endogenous origin, that the system has to deal with in the course of the average day's work. I emphasise the word "total," in view of uninstructed theorising that is sometimes indulged in as to the value of this or that base to counteract specific acidities. Accurate knowledge is of advantage in this subject as in any other, but when, for example, Phosphate of Soda (Na_2HPO_4) is seriously written

against on account of its ready convertibility within the system into the acid sodium salt, it is time to protest. Apart from the seemingly little-known fact that its functions in the latter capacity are valuable, it should be obvious to that writer that its very conversion into the acid salt eases the acid pressure and allows of a readjustment of the acid and base combination already effected, it may be, under protest. To give a concrete instance of a familiar kind, if Soda Phosphate* is administered in a case of great Uric Acid excess, an acceleration of the Uric Acid output is observed—parallel rational treatment being, of course, understood. Now the Uric Acid is not excreted as a *sodium* salt, but as, say, an ammonium salt. This does not mean that the sodium has "missed fire," but that its entry into the system has freed a corresponding quantity of other bases, by increasing the base-balance. This done, Nature makes her selection, uses the soda as she thinks proper, and throws out the Uric Acid in conjunction with the *now* available ammonia, Uric Acid fortunately being, as already stated, very tolerant in its choice of bases. From this it is clear that our first effort

* See Note on p. 240.

should be to maintain a proper "current account" as regards bases, theoretical *a priori* discussions as to *which* ones being often stultified by Nature's extraordinary adaptability, and (on occasion) by our own ignorance. *Experientia docet.* Should we run short of bases, Nature, *where she may*, dispenses with them. Hence some acids are rigorously kept under control as salts, whilst Uric Acid—more easily tolerated by the system—is precipitated in crystalline form, as a method of emergency, to permit other and really dangerous elements to be cleared out of the system.

To sum up the principal points :—

(*a*) The appearance of Uric Acid in the organism to a pathological extent is mainly due to complications introduced into the digestion of proteid food by association with it of dietetic incompatibles.

(*b*) Under healthy conditions, proteid—whether purin-free or not—furnishes an ample supply of base to counteract any possible Uric Acid formed from itself.

(*c*) Uric Acid is formed in *relatively* small quantities, even pathologically, and is tolerated by the system to a remarkable degree.

(*d*) It combines readily with any of three important (and, usually, abundant) bases to form soluble salts (Soda, Potash, and Ammonia). Hence it is easily excreted in solution.

(*e*) Much has yet to be learnt, by profession and public alike, of the concomitants of Uricacidæmia, before either are entitled to allot to Uric Acid its true share in the causation of the ills and troubles now crudely and erroneously attributed wholly to it.

Note on Soda Phosphate:

For further information as to the functions of Soda Phosphate (Na_2HPO_4), the professional reader is referred to a technical and highly interesting lecture by F. Crowland Hopkins, reported in the *Lancet* for June 6, 1914: (the Oliver-Sharpey Lectures on Some Effects which follow upon Changes in the Reaction of the Blood: Lecture I.).

APPENDICES

APPENDIX I

QUOTATIONS ABOUT URIC ACID AND PURINS

1. The Purin Bodies
(Also spelt "Purine")

Notes by C. H. Collings

THE *Purine Derivatives—Uric Acid, and many other important natural products—may be regarded as derived from Purine, a substance which has been prepared by E. Fischer.*"

"*Purine* ($C_5H_4N_4$) *melts at* 217°; *is readily soluble in water; has both acid and basic properties.*"

Derivatives (the more important) { *Uric Acid, Hypoxanthine, Xanthine, Theobromine, Caffeine, Adenine, Guanine.*

According to W. H. Perkins and F. Stanley Kipping, in "Organic Chemistry" (1911).

It is to be noted that Purine, although it is an actual body and can be produced by synthetical (laboratory) methods, stands only in theoretical relationship to Uric Acid.

Uric Acid ($C_5H_4N_4O_3$) *treated with Nitric Acid* (HNO_3) *yields Alloxan* ($C_4H_2N_2O_4$), *Parabanic Acid* ($C_3H_2N_2O_3$), *and Urea* ($CONH_2$). *It has also been produced synthetically by Behren and Roosen, and by E. Fischer, according to Perkins and S. Kipping (see above).*

The Purin Nucleus = C_5N_4. *"Uric Acid + allied bodies = Purin bodies." These bodies apart from Uric Acid are termed "Purin bases"*—Dixon Mann (1908).

2. Uric Acid and its Congeners

Its Appearance.—*Pure uric acid is tasteless and inodourous. It is a glistening, snow-white, crystalline powder, which, under the microscope, appears to consist of minute (though regular) transparent, colourless crystals, in the form of rhombic plates, with rounded angles, and often united in pretty rosettes. They may be whetstone, dumb-bell, paddle, and spiculated shaped, and of a reddish or yellow-brown colour, due to the accompanying pigment (usually purpurine). They may*

be seen by the naked eye in the urine, as "sand," "gravel," "brick-dust," and "red pepper grains."

Its Reaction.—*Uric acid slightly reddens blue litmus, as it is a tasteless, weak acid.*

Its Solubility.—*Uric acid itself is less soluble than most of its salts. It is practically insoluble in dilute acids, alcohol, ether, water, or strong solutions of alkaline carbonates. It dissolves in* 1 : 40,000 parts of cold water, and in 1 : 1,800 *parts of boiling water.*

It is soluble in weak alkaline solutions: therefore, alkaline urine and blood hold uric acid in solution (*pp.* 21–22).

Many conscientious physician-editors now entertain the idea (*and so state in articles written for their journals*) *that it has been found that uric acid is not transformed in the body into urea. Knowing that the old theory* (*of uric acid being a half-way stage in the metabolism of albumin into urea*) *has been exploded, they are not aware that physiologists have demonstrated beyond cavil that uric acid is a half-way stage in the metabolism of nuclein or purins into urea. The fact is now well established that urea is the end product of nitrogenous catabolism, both albumin and purin* (*p.* 191).

Its Purin Structure.—*Structurally, uric acid may be regarded as a purin derivative. The word "purin" is applied to various nitrogenous substances which are derived from animal and vegetable cells, and which contain the hypothetical chemical molecule,* $C_3H_4N_4$, *a substance discovered by Emil Fischer, who made it synthetically and called it "purin" (purum uricum), since by the replacement of its various hydrogen atoms by the radicles, hydroxyl* (*OH*), *or amino* (NH_2), *or akyl* (CH_3), *etc., a large number of important derivatives are obtained, such as the various nuclein* (*alloxuric, xanthin, or purin*) *"bases," uric acid, caffein, theobromin, theophyllin, etc.*

All these purin bodies contain the group C_5N_4, *the so-called "purin nucleus."*

Uric acid consists of the purin nucleus, with one hydrogen to each nitrogen atom (forming "purin"), and three oxygen atoms attached to three of the carbons, one to the second atom, one to the sixth atom, and one to the eighth atom, thus suggesting the chemical name, "2, 6, 8—tri-oxy-purin."

Hypoxanthin, xanthin, and uric acid are known respectively as mono-, di-, and tri-oxypurin; while adenin and guanin are called amino- and

amino-oxy-purin; and caffein and theobromin known as trimethyl- and dimethyl-xanthin.

It will be observed that uric acid is a purin derivative, oxidised a step further than xanthin or hypoxanthin, containing one more oxygen atom than the former and two more than the latter.

Kossel and Salomon . . . have demonstrated that uric acid is produced when the nuclein of yeast or of leucocytes is heated in the presence of air; but, if the air is excluded, the xanthin bodies are produced instead.

Furthermore, it is known to physio-chemists that venous blood generally contains a small proportion of xanthins, while arterial blood contains uric acid and scarcely any xanthins (*p.* 291).—*From* G. A. GILBERT, M.D., in "*Uric Acid.*"

3. WALKER HALL ON THE PURIN BODIES

The term "Purin" has been applied by E. Fischer to a nucleus (C_5N_4), *and hence all bodies constructed upon such a base may be included under this name. The Purin bodies of ordinary occurrence are Hypoxanthin* ($C_5H_4N_4O$) 1-6 *oxypurin, Xanthin* ($C_5H_4N_4O_2$) 2–6 *oxypurin, Uric Acid* ($C_5H_4N_4O_3$) 3–*oxypurin, Guanin* ($C_5H_4N_5O$) 2 *amino-purin, Adenin* ($C_5H_5N_5$), 6 – *amino - purin, Caffein*

($C_5HN_4O_2$) (CH_3)$_3$ tri-methyl-oxypurin, and Theobromin ($C_5H_2N_4O_2$) (CH_3)$_3$, di-methyl-oxypurin.

Although current text-books treat the chemistry of the individual purins somewhat exhaustively, it is necessary to state some of the principal facts which underlie their group reactions in order to delineate the several phases of nuclein metabolism. The purin compounds crystallise easily, are more or less soluble in the usual solvents, and can now be oxidised and reduced. Hypoxanthin yields small crystalline scales with sharpened extremities almost like grains of wheat. Xanthin may be distinguished by its thin, flat, glistening rhombic plates, Guanin by small prismatic crystals or amorphous masses, Adenin by long-needle-shaped prisms, and Uric Acid by rhombic plates. Rarer forms have been demonstrated by variations in the media and rapidity of crystallisation.

Their solubilities present the following remarkable differences—

		Hypoxanthin.	Xanthin.	Adenin.	Uric Acid.	Guanin.
Water:	Cold	1·300	1·13000	1·1086	1·16000	Insoluble.
	Hot	1·78	1·1300	—	1·600	„
ALKALIES:						
Weak:		Soluble.	Soluble.	Soluble.	Soluble.	Slightly Soluble.
ACIDS:		„	„	„	Insoluble.	Soluble.

Of the known purin-bodies, hypoxanthin, xan-

thin, guanin, and the methyl-xanthins, caffeine and theobromin are found in foodstuffs, and uric acid, and traces of xanthins and methyl-xathins are met with in the urine.

1. *As the methods available for the estimation of purin-bodies in animal organs were unsatisfactory, both as to technique and results, modifications were introduced and a reliable process worked out.*

2. *In foodstuffs, the purin-bodies occur in two forms, "free" and "bound." Both the glandular and muscular tissues contain approximately equal amounts of "free-purins," but the glandular tissues yield very large and the muscles only very small quantities of bound-purins (nucleins).*

3. *The estimations of the purin bodies contained in meats, show that considerable quantities are present, but that little difference exists between the amounts contained in white and dark meats.*

4. *Certain vegetable foods have been found to contain purin bodies. Amongst these are peas, beans, oatmeal, asparagus and onions. This furnishes a reason for the high uric acid excretion which follows their ingestion.*

5. *From several varieties of beer and porter purin-bodies have been isolated, and their percentage*

amounts estimated. Their presence may account for the harmful influence of these beverages in gout, and for some of the pathological changes which occur in chronic alcoholism.

6. *Experiments upon the action of the purin-bodies upon carbo-hydrate metabolism show that caffeine induces an increased elimination of* CO_2. *Uric acid and hypoxanthin, however, are inert in this regard.*

7. *The continued daily injection of hypoxanthin into rabbits hinders their growth, causes degenerative cell changes in the liver and kidneys, alters the cellular relations and contents of the blood and marrow, and produces slight changes in the intima of the smaller blood-vessels.*

8. *Feeding experiments with fish, fowl, beef, haricot beans and beer, under appropriate conditions, show that the urinary purin is increased in all these cases; that this increase corresponds with* 50 *to* 60 *per cent. of the purin-bodies ingested with the food; that the purin is principally in the form of uric acid, and that the increase of urinary purin reflects the metabolic activity of the individual in regard to nucleins.*

9. *The fæces may contain unabsorbed nucleins as well as certain purin substances from the*

digestive juices and cell-nuclei, and estimations of these bodies should be included in all metabolic experiments.

10. *When the "free" purins are ingested, they are rapidly oxidised and decomposed. About* 50–60 *per cent. of hypoxanthin leaves the body as urinary purin (principally uric acid) within* 4–6 *hours, and the same percentage of uric acid appears in the urine after* 8–10 *hours. The bound purins, however, take* 1–2 *days before they are fully excreted.*

11. *The remaining* 50 *per cent. of the food-purin is excreted as urea, or as bodies intermediate between uric acid and urea.*

12. *By the quantitative estimations of purin-bodies in foodstuffs, an exact forecast of the exogenous urinary purin is possible, and its amount can be limited when necessary by prescribing a certain diet. From the total urinary purin the exogenous portion can be deducted and the endogenous amount obtained. Tables iv., vi., and vii. should, therefore, not only be useful for dietetic purposes, but save a considerable amount of laboratory work.*

13. *The endogenous purin is partly derived from leucocytes, but mostly from the cell changes which*

result in the maintenance of bodily functions. Hence, as the cell-nucleus is the dominating factor in metabolism, the cleavage of cell nucleins may incite the decomposition of proteid matter. It is possible that the endogenous urinary purin represents about one-half of the total endogenous purin produced, and that the latter quantity indicated the extent of metabolic processes more completely than any other factors at present available.

14. *Uric acid is a necessary result of normal nuclein metabolism. In disease it is symptomatic of conditions which hinder or prevent its solubility and excretion, and does not itself cause the lesions which accompany uricacidaemia. Drugs are unable to increase its solubility in the blood-stream, but they may promote the normal processes of nuclein metabolism through hepatic stimulation. Uratic deposits take place slowly and their infiltration might perhaps be decreased by the administration of organic compounds which delay the precipitation of uric acid from its solution.*

15. *The general conclusions of the investigation point to the need for determinations of the endogenous purins in many diseases, either by the use of purin-free food, or by the aid of tables giving the percentages of purins in foodstuffs, and the necessary*

calculations therefrom. In order to assist the clinician in his attainment of such records, an instrument—the purinometer—is proposed, and the method for its use is described.

16. *The action of the purin bodies upon the alimentary system, as demonstrated by Pawlow and later by Potapow-Procaitis, strongly contra-indicates the employment of meat extracts or soups in hyperchlorhydria* (*pp.* 155–158). *From* I. Walker Hall, M.D., *in "The Purin Bodies in Foodstuffs."*

APPENDIX II

ANÆMIA, DYSÆMIA, AND NEURASTHENIA

By Eustace Miles

WHAT *is the exact difference between Anæmia and Neurasthenia?*—H.C.

Both terms are very often used loosely by ignorant people.

Anæmia is of many kinds.

First of all, it may mean that one has not enough blood—I mean that one has not enough red cells. This is a matter which can easily be remedied, as Mr. Collings, the Expert who works with me in my more difficult cases, has frequently proved.

Or it may be that there are (or are not) enough red cells, but that what red cells there are, are pale. We cannot strictly call this Anæmia, which means Bloodlessness; we should rather use the term invented by Lahmann, and call it Dysæmia. This also can be remedied, as Mr. Collings and I have frequently proved. There is a special fine trituration of Iron which is most effective if taken at the right time and in the right way.

The individual diagnosis that Mr. Collings

* These notes first appeared in the "Health and Counsel Bureau" of "Healthward Ho!"

makes from the living blood, which needs a good deal of technical knowledge and experience to examine accurately, points out which particular kind of Anæmia, if any, can be predicated of any particular case.

Then there is a third kind of Dysæmia—namely, that the blood may be coagulating badly and may be moving too rapidly. The blood here may be deficient not in Iron, as in the previous case, but in Calcium or Lime. This, also, we have proved can be remedied, but it takes very long, as a rule, to remedy it. It is a state of affairs that goes back often twenty, thirty, or even more years, and is sometimes traceable to wrong food given to a child from its earliest infancy. There is probably no fault in the blood which takes such a tremendous time to remedy as this deficiency of Lime. By the way, Dr. Kellogg ascribes deficiency of Lime and Fibrin to excess of Proteid, and especially to excess of meat. Mr. Collings and I have had quite a number of cases in which the Lime content of the blood was fairly satisfactory; and we have found that in such cases excess of flesh-foods have been taken in the past. I have not advocated the use of flesh-foods, but am simply saying it is un-

scientific to abuse flesh-foods indiscriminately, and to deny some of the undoubtedly good effects which they produce.

In the next place, the blood may be too acid; which fault may also be remedied; but here there is need of special dietaries adapted to each individual case. For instance, it may be what is usually called Uric Acid over-acidity, or it may be what we call Carbohydrate over-acidity. Each case requires its own treatment. They, and excess of lactic acid, etc., demand different treatments and different remedies.

Or perhaps the blood is dysæmic in another way: it may be that the cells are crenated. This fault also can be remedied.

And other kinds of Dysæmia can be remedied as well, when they have been diagnosed.

Now there is one thing in common in all the above cases. It is that all can be remedied; though the deficiency of Lime in the blood takes by far the longest time to remedy, and the fault of an inadequate number of red cells in the blood takes the shortest time to remedy, all these faults are remediable, and not one of them necessarily means that the person is "run down."

There is yet another fault—namely, that the

person is in a tired state. This also the person can remedy, chiefly by adopting the right dietaries, and by taking a certain amount of rest.

Supposing that the person has vitality and reserve energy—and the blood indicates whether he has or not—then to get him right, to cure him of his Dysæmia, is more or less like filling a bookcase with good books. You keep out the wrong books and you put in the right books; only, with the body and blood, the process must be carried out very wisely, some cases taking longer, whereas other cases are cured very rapidly.

Now any one, or two, or all, of the above symptoms may or may not be combined with Neurasthenia. With Neurasthenia any of the above signs may appear. And, generally, at least one of them does appear. But this is not part of the definition of Neurasthenia. Neurasthenia is not necessarily accompanied by too small a number of red cells, or too pale red cells, or poor coagulation of the blood, or overacidity of the Uric Acid or Carbohydrate kind, or crenation of cells. As a general rule, it will be accompanied by microcytes, but not always Nor need it be accompanied by a tired feeling. Neurasthenia is something distinct.

Neurasthenia is—to some extent—a lack of vitality and reserve force.

A proper diagnosis will show at once whether a person is neurasthenic or not. And here I may mention that, in the great majority of cases which Mr. Collings has examined for me, he has found the pronouncement of specialists, that the case was Neurasthenia, quite without foundation. The great majority of the cases that we have treated have not been Neurasthenic; but they have been Anæmic or Dysæmic, which is an entirely different matter. And I am sorry to say that, in the great majority of cases which have come to us, there had been no trouble taken by the doctor or specialist to ascertain whether it was a case of Neurasthenia or not: the verdict had been sheer guess-work. And when I have questioned, on more than one occasion, the doctor who called a case Neurasthenia, he could give no reason whatsoever for his verdict except that this was what he thought the trouble was; he produced not one atom of evidence in support of his theory.

To diagnose Neurasthenia is not easy without the Expert Examination of the living blood. It is extremely difficult to judge from the appear-

ance; a person may look well. It is also extremely difficult to judge from the feelings of a person. He or she may feel vigorous and happy; this is especially noticeable in certain cases of Consumptive Neurasthenia.

I can imagine a case (though we have not found one yet) in which the blood is perfect in respect of all the above symptoms of Anæmia and Dysæmia. For example, it may have the full number of red cells, red cells of the right colour, and so forth. We have not yet had such a case; for every case of Neurasthenia which Mr. Collings has diagnosed for me has been one in which the blood was wrong in one or more of the above features; but I can imagine a case in which a person looks well, and says he feels well, and perhaps may, with care, develop into a quite healthy person; yet the person is lacking in vitality and reserve energy.

Personally, I believe that the individual may become well if he leads a sensible life, and, in fact, we have seen such cases which have shown Neurasthenic tendencies, but which have become stronger and stronger through sensible diet, rest, etc.

On the other hand, it is quite possible for the blood to be wrong in practically all the above

respects. It is possible for a person to look ill (though I have found there is a look in the eyes which will generally tell me whether a person is Neurasthenic or not); it is possible for a person to feel ill and tired and good for nothing; it is possible for a person to be on the road to ill-health or even death; yet for the same person to be endowed with vitality and reserve energy, and to be in no true sense of the word a Neurasthenic. Such a person will certainly become well if he will only lead a sensible life.

Of course many people will refuse to make the changes unless they are frightened by being called Neurasthenic! And even then it might be hard to make them change their ways.

For my own part, I often have more hope for a Neurasthenic who takes care, than for a strong person who goes on poisoning himself; because, owing to his strength, the wrong feeding, etc., does not hurt him obviously enough to warn him.

In the same way, there is often more chance for a person with a weak heart; for such a one will be more careful, whereas a person with a strong heart will take all kinds of liberties.—*Reprinted from "Healthward Ho!"*

APPENDIX III

THE EASTER EGG IN MODERN TERMS

THE injunction in mediæval times that after a period of partial abstention from food during the Lenten season the egg should form a prominent article of diet on Easter Day proves to be a peculiarly sensible one in the light of modern knowledge in regard to its composition. It is not so very long ago that lecithin, the interesting phosphatised oily substance contained in the yolk, was found to have a decidedly favourable effect upon nutrition. Some authorities have gone so far as to assert that the nerve centres depend upon lecithin for the highest performance of their functions, and that nerve and brain exhaustion is caused by an undue expenditure of lecithin. Lecithin has thus been employed in nervous breakdown of various forms, and the experience is recorded that after a short course of treatment by lecithin the sufferers put on flesh and experience a feeling of

well-being. If this is the case, an egg dietary is obviously peculiarly suitable after a *regime* of fasting, when it is remembered that the most fruitful source of lecithin is the ordinary egg. The mono-amino phosphatide (to give its chemical description accurately) is present in the yolk of an egg to the extent of a little over 7 per cent.* Taking an average egg to weigh about 50 grammes, of which the yolk is 30 per cent., or 15 grammes, one egg is capable of yielding 1.08 gramme of lecithin, or about 16 grains. In the treatment of nervous disorders the dose of lecithin is from 3 to 5 grains three times daily half an hour before meals, so that the daily maximum intake of prepared lecithin would be 15 grains, which is just a grain short of the lecithin found in a single egg. If lecithin is a real need of the body, the supply, it is obvious, can easily be kept up by the simple custom of taking an average-sized egg at the matutinal meal.

The eating of an egg, however, would probably not convey to a public, singularly credulous about drugs, the same assurance as would the taking of a few grains of a special preparation.

* Compare with Dr. K. Haig's warning against egg yolk on account of uric acid! An egg would naturally include all those elements which are necessary to growth!

The truth is that food often contains active therapeutic principles which when isolated count as drugs. Lecithin is certainly not a food, but there can be little doubt that its presence in some foods possesses a singular influence on the growing organism. It is present in a good many food substances, but the egg is richest in this curious material. The reverence for an egg in religious history was no doubt based on its life potentialities. The Easter egg was a dietetic recommendation from probably similar reasoning, and it is interesting to note that apart from its unquestionably high nutritive properties the egg contains a substance which modern investigation has indicated is peculiarly adapted for cases of malnutrition.—*From* THE LANCET, *March* 22, 1913.

APPENDIX IV

PURINS IN FOODS

Rough Estimate of PURINS
(Often incorrectly known as URIC ACID)
IN VARIOUS FOODS
Rough Estimates of Purins (grains in a lb.) chiefly from Dr. Walker Hall,
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
FISH.
Cod 4.1
Plaice 5.6
Salmon 8
MEAT.
Mutton 6.7 to 8.1
Pork and Ham 8.0 to 8.5
BIRDS.
Turkey 8.9
Chicken 9.1
OTHER FOODS—Some say that milk, cheese, butter and bread contain little or none
Perhaps fresh eggs contain little or none, less fresh eggs more
Ribs 7.9
Steak 14.4
Sirloin 9.0
Liver 19.3
PLANT FOODS.
Potatoes 0.1
Onions 0.1
Asparagus 1.5
Peameal 2.5
Oatmeal 3.4
Haricots 4.2
DRINKS.
Lager 1
Pale Ale 1.3
Porter 1.3
Dry Cocoa ? 1.9 Dry Coffee ? 1.0. Dry Ceylon Tea ? 1.1—Dr. HALL'S est

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INDEX OF MAIN TOPICS

Acidosis (other kinds) : pp. 19, 39, 44, 104, 111, 117 and foll., 125 and foll., 188-189, 221, etc.
Acids : p. 95.
Advertisements (misleading) : 127 and foll.
Ammonia : p. 235, etc.
Anæmia : Appendix II.
Arguments for Dr. A. Haig : pp. 68 and foll.
Autotoxæmia : pp. 187, 206, etc.
Barriers and Defences : pp. 50, 91, and foll.
Bases : pp. 106, 181, 230, 235.
Calcium Oxalate : pp. 106 and 107, 109 and foll.
Carbohydrate Excess : pp. 81, 105, 120, 220, etc.
Cases quoted : pp. 18, 34, 40, 51, 54-55, etc.
Chromogens : p. 112.
Cold : p. 93.
Crystals : pp. 106 and 107, 231.
Diet (Purin-free Diet possible) : pp. 155 and foll.
(Remedial) : p. 162.
Drugs : pp. 98 and foll.
Eggs : Appendix III, and pp. 148, 207.
" Emprote " : p. 157.
Fillers-up : p. 169.
Flavour : pp. 163, 195.
Fruit : pp. 95, 219.
Gilbert (D. A.) : pp. 64, 72 and foll., etc.
Haig (Dr. A.) : passim. For his Diet, see pp. 122–123.
Hare (Dr. Francis) : pp. 17, 82 and foll.
Homœopathic Triturations : p. 173.
Hydrochloric Acidosis : p. 221.
Hyperpyræmia : pp. 17, 119.
Individuality : pp. 92-93, 162.
Ingestion versus Retention : pp. 50, 88 and foll.
Length of Cure of Uric Acid : pp. 18, 54-55.
Lithia : p. 104.
Mann (Dixon) : pp. 99–100, 225.
Mastication : p. 88.
Means of Cure : pp. 149, etc.
Mental Poisons : pp. 88, 113 and foll.
Mistakes of Diet : pp. 43 and foll., 117, 125, etc.
Neurasthenia : Appendix II.

Nuts: p. 208.
Objections to Popular Theory: pp. 77 and foll.
Oxalic Acid: pp. 109 and foll., 188.
Personal Experiences: pp. 27 and foll., 165.
Popular Theory: pp. 59 and foll.
Practical Advise: pp. 153 and foll.
Preservatives: p. 117.
Proteid (Amount): pp. 83 and foll., 192, 211, 235.
(Excess): pp. 80, 235.
(Sources): pp. 158 and foll.
Purins (and Uric Acid): Appendix I.
(Table of): Appendix IV.
Quacks: p. 218.
Quantities: p. 164; and see Proteid.
Questions answered: pp. 151 and foll.
Retention versus Ingestion: pp. 50, 88 and foll.
Salicylates: pp. 98, 101 and foll.
Salisbury Diet: p. 53.
Salts: pp. 87, 119, 149.
Selective Excretion: p. 97.
So-called Uric Acid Troubles: pp. 62, 124.
Soda Phosphate: pp. 96 and foll., 238, 240.
Solubility of Uric Acid: pp. 181, 230, 235.
Stone: pp. 134, 233.
Sugar: p. 220; and see Carbohydrates.
Sulphuric Poisons: pp. 188-189.
Summaries: pp. 35 and foll., 174, 181.
Symptoms: pp. 124, 139.
Taste: p. 163.
Tea: pp. 196 and foll.
Threefold Examinations: pp. 22 and foll., 51.
Tissue-storage: 143.
Triturations: pp. 18, 173, etc.
Urea: pp. 84, 111, 210.
Uric Acid: pp. 59 and foll., 225 and foll., and passim.
(Troubles, so-called): pp. 62, 185.
Vegetables: pp. 149, 160, 194.
"Vegetarianism": pp. 44 and foll., 169 and foll., 203.
Wrong Combinations and Proportions of Foods: pp. 81 91, 187.

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The Threefold Examination

Its Aims and Methods

APART from the question of organic soundness, there are at least two methods of finding out what is the matter with a sick person who is ill or is not well. One of them is known to all: it is followed by the medical man. The other, quite its superior in many respects, is beginning to be known, popularly, as the Threefold Examination.

The aim of the Threefold Examination is to discover in each individual case, the physical causation underlying physiological, psychical, and often mental departures from the normal. No pains are spared to find out what lies at the back of the apparent troubles that afflict the patient.

It will be evident, from the comparison instituted in the opening paragraph, that the usual method of diagnosing by symptoms is not followed. Wherein, then, lie the distinguishing features of the Threefold Examination?

Briefly, in the application of the best and most practical forms of scientific analysis to the blood, the urine, and the fæces of the patient. From each of these sources characteristic

The Threefold Examination

ITS AIMS AND METHODS (continued)

facts are obtained, and the three sets of data are collected. Each set is complimentary to the other two; each presents certain facts peculiar to itself and amplifies others that are but adumbrated by those two. Thus a remarkably complete composite picture is presented to the mind's eye, delineating the actual condition of the patient, and unerringly indicating the essential errors of diet and so forth that in the past have initiated the present dislocation of function.

Let us glance at the methods employed to collect the facts referred to.

First of all, the blood is examined, microscopically. A minute prick is made in the finger with a sharp sterilised surgeon's needle. This is practically painless—no child has been known even to shirk the operation the *second* time. The small drop of blood that exudes is transferred to a glass slip, and immediately examined under a high magnifying power, and notes are made of all the essential facts, together with the changes that take place as the blood gradually dies. The new-dark-ground method of illumination is here utilised as an extremely valuable adjunct to the usual mode of transmitted light.

The facts thus obtained are amply sufficient to initiate the patient's treatment without loss of time along the right lines

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The Threefold Examination

ITS AIMS AND METHODS (concluded)

pending the fuller information that results from the examination of the other two specimens. These, collected in accordance with instructions given, and in suitable receptacles duly supplied to the patient (the way being smooth and practical difficulties cleared away) are duly put through a series of chemical and microscopical tests in the laboratory. This part of the work, needless to say, is not performed in the presence of the patient, though no mystery is made of it, either to the public or to the profession. The usual—and further—chemical tests are made including necessary quantitative analyses, and microscopical examination of the sediment and of the fæces.

The scope of the enquiry extends considerably beyond the mere question of efficient functioning—or otherwise—of the kidneys.

But to discuss this broader view does not come within the object of this brief article: suffice it to say that certain of the ideas involved have already been raised, if not discussed, earlier in this book. What has been made clear, it is hoped, is that careful, thoroughly scientific work is carried out in every case along chemical and microscopical lines, no pains being spared to elucidate all necessary data on which to base a sound, well-considered diagnosis.

C. H. C.

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(This includes all future Advice on Health, by correspondence, free of charge ; but does not include future Examination, nor future Interviews).

C.—For the Examination of the Blood only, as in A. : ONE-AND-A-HALF-GUINEAS.

D.—For the Examination of only the Urine and Fæces (Mr. Collings sends the Postal Tins and instructions), and Reports and brief Advice (based on them) by Mr. Miles : ONE GUINEA.

FOR COURSES, INTERVIEWS, ETC.

E.—For the Full Health Course (F. and G. are included) by Correspondence : TWO GUINEAS.

(This Fee includes (as in B.) all future Advice on Health, by correspondence, free of charge, but not an Interview).

F.—For the Diet Course only, by Correspondence : ONE GUINEA. (This fee includes all future Advice on Diet, by Correspondence, free of charge).

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1/6